TRENDS IN THE JAPANESE HOUSING MARKET

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Trends in the Japanese Housing Market

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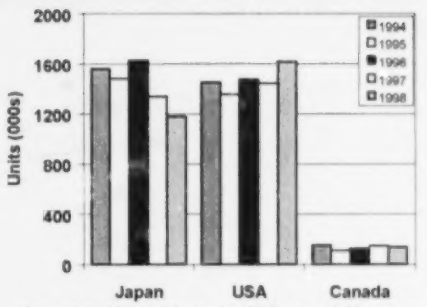
December 1999

Executive Summary – Trends in the Japanese Housing Market

Japan is one of the world's largest housing markets. Despite a downturn in housing activity in the past two years, Japanese housing starts still totalled almost 1.2 million dwelling units in the 1998 fiscal year – almost ¼ of the volume of housing starts in the US. Both Japan and the US, of course, dwarf the annual housing starts in Canada.

Annual Housing Starts
Japan, USA and Canada, 1994-1998



Source: Japan Ministry of Construction, US Department of Commerce and CMHC

For housing exporters, Japan is a very large and potentially lucrative market. Many countries (including Canada) are aggressively targeting Japan as a market for housing-related exports. Canada is a leader in the development of new housing technologies – and the design and construction of high quality housing. Single-family housing, which comprises roughly half of annual Japanese housing starts, is particularly suited to Canadian wood-frame designs.

Canada is a leading exporter of building materials and services to Japan and has actively promoted the use of Canadian housing systems through a variety of initiatives. Imports of housing, however, comprise only a small proportion of total Japanese housing activity so the potential to expand this market share presents attractive opportunities for Canadian housing producers and suppliers.

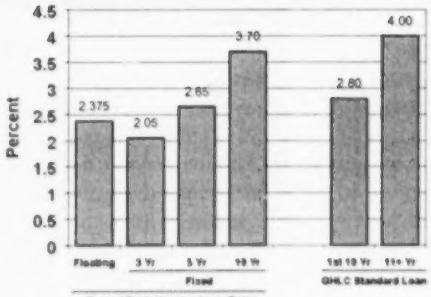
Access to market information represents an important barrier to Canadian housing firms which are seeking to explore opportunities for exports to Japan. This overview of recent trends in the Japanese housing market and housing imports, commissioned by the Canadian Housing Export Centre (CHEC), within Canada Mortgage and Housing Corporation (CMHC), seeks to assist in overcoming this barrier.

Conclusions

There are serious challenges facing the Japanese economy – challenges which have negatively impacted the level of housing activity. While the economy has shown signs of life in recent months, this was mainly due to the effects of government stimulus. Most forecasters are projecting at best modest growth for the Japanese economy in the 1999 and 2000 fiscal years.

As part of the government's stimulation efforts, interest rates have been reduced to very low levels – though the rate for housing loans was recently raised from 2.6% to 2.8%.

Housing Loan Interest Rates
Japan, November 1999



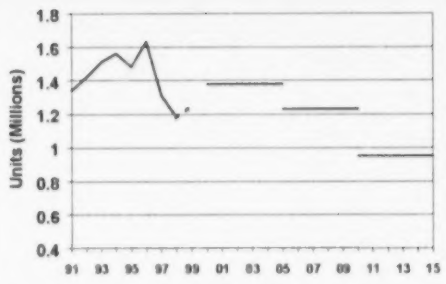
Source: The Bank of Tokyo-Mitsubishi, Ltd. and GHLC

In addition to the low interest rates, there has been an increase in government-sponsored lending and tax breaks for buyers of new houses.

Japanese housing starts declined in 1998 to their lowest level since the early 1980s – 1.18 million units. Despite the drop in starts, Japan remains the second largest housing market in the world.

Starts are forecast to rise to 1.23 million in 1999 – still well below the projected level of housing demand. For 2000-2005, forecasters expect starts to average 1.3-1.4 million units annually.

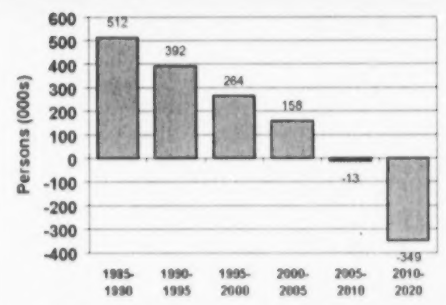
Housing Starts
Japan, 1991-2015



Source: Ministry of Construction and forecasts by Housing Research Foundation

Over the long-term, after 2010, Japanese housing starts will drop significantly due to population declines resulting from low birth rates and the absence of immigration.

Average Annual Population Growth
Japan, 1985-2020

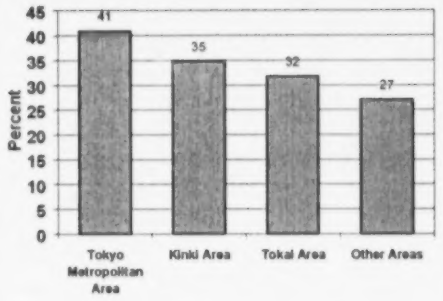


Source: Population Census and National Institute of Population and Social Security

Though Japanese demographics are not positive for housing in the long-term, the substantial demand for re-built housing will continue to support high levels of housing activity.

Re-built housing – new housing built on sites where older dwellings have been demolished – accounts for a significant proportion of new housing activity in all parts of Japan. The incidence of re-built housing is particularly high in the major centres.

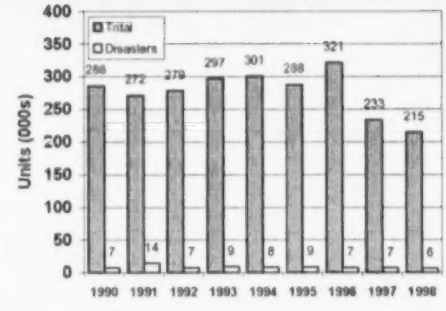
Incidence of Re-Built New Ownership Housing
Japan, 1998



Source: Ministry of Construction

The significant numbers of re-built housing are due to the large volume of demolitions in Japan. There were an average of roughly 300,000 units demolished annually over the 1993-1996 period. Demolitions declined in 1997 and 1998 – due partly to the slowdown in housing activity.

Demolitions of Housing
Japan, 1990-1998

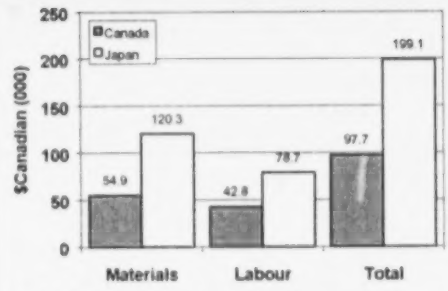


Source: Ministry of Construction

The high volume of demolitions is due to a number of factors including the high land values in major cities, the short life cycle of Japanese houses (25-30 years) and the legacy of large numbers of relatively small, poorly-constructed dwellings built to meet the urgent housing shortages following World War II.

According to a spot study prepared for CMHC in 1997, housing construction costs are much higher in Japan than in Canada or the US.

2X4 Construction Cost Comparison
Japan/Canada, 1997



Source: *Canada/Japan 2X4 Residential Cost Comparison Study*, Prepared by Export Council of Canadian Architecture Technical Committee for CMHC, 1997

According to the study, the cost to build a typical 2x4 house in Japan was more than double the cost in Canada.

As a means of reducing housing costs and improving affordability, the Japanese government has been promoting increased imports of housing and building products.

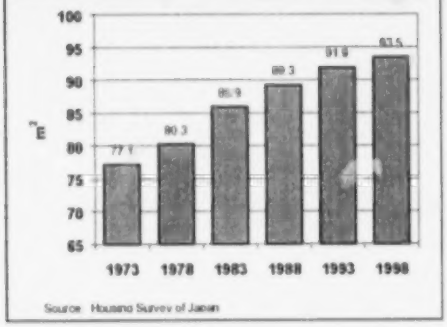
Deregulation and simplification of building regulations are part of this strategy to reduce housing costs. These important regulatory changes are designed to enhance the access of foreign companies seeking to supply products for the Japanese housing market.

The government hopes that increased imports will reduce the cost of new housing in three ways: by bypassing the inefficient (and costly) distribution systems for building products in Japan; by changing construction methods; and by providing a wider choice of products.

The government is also promoting energy efficient and healthy housing – as part of its commitment to the reduction of greenhouse gases resulting from the Kyoto conference on climate control.

Japanese housing is very different from Canada. Though average house sizes have increased in recent years, dwellings are much smaller, more expensive, on smaller lots and (mainly) are built with different construction methods.

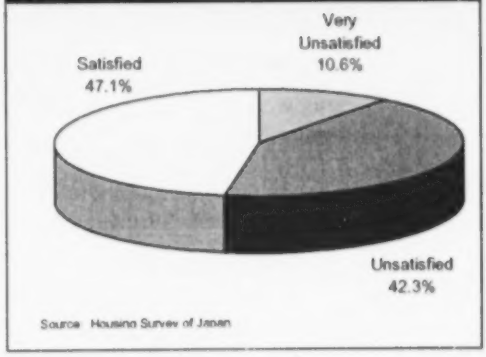
Average Floor Space Per Dwelling
Japan, 1973-1998



Source: Housing Survey of Japan

There is considerable dissatisfaction on the part of Japanese consumers with respect to the quality of their housing. In addition to a desire for large dwellings, the lack of insulation in many homes (associated with both comfort and privacy) is a particular concern for over half the households in Japan.

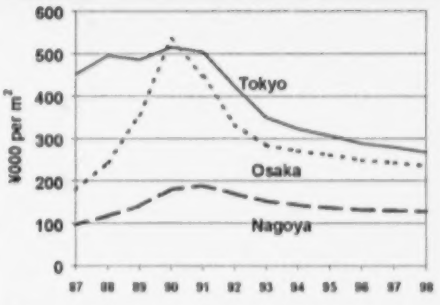
Complaints About Insulation and Sound Proofness
Japan, 1998



Source: Housing Survey of Japan

Land prices have fallen since the collapse of the bubble economy; however, they are still extremely high by Canadian standards.

Trends in Average Residential Land Prices
Major Centres, Japan, 1987-1998



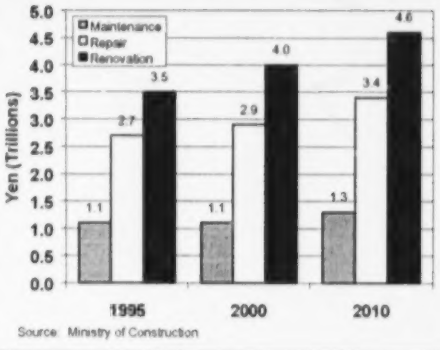
Source: Prefectural Land Prices Survey, Land Prices Research Division, Land Bureau, National Land Agency

At the average of ¥267,000 per square metre ($3,200 Cdn) in 1998, a median lot of 200-250 square metres in Tokyo would be worth more than $600,000 ($Cdn). While prices are less in other centres, they remain very high.

Large builders account for a significant share of total housing production in Japan. However, small and medium-sized companies still build the vast majority of new houses.

Renovations (called 'reform' in Japan) account for a relatively small share of total housing construction.

Expenditures on Housing Reform
Japan, 1995-2010



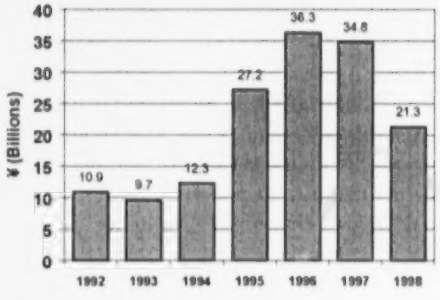
Source: Ministry of Construction

Spending on reform is expected to increase in the future, in contrast to new construction.

There has been a growing trend to imported housing and building products in Japan – as well as foreign methods of construction. However, housing imports account for only a very small fraction of total Japanese housing activity.

Imports of prefabricated buildings increased significantly over the period from the early 1990s to 1996. Since then, there has been a decline in prefabricated building imports.

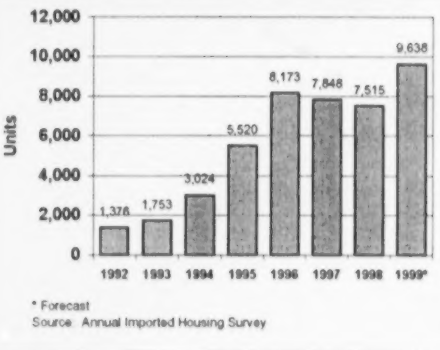
Imports of Prefabricated Buildings
Japan, 1992-1998



Source: Japan Tariff Association, Japan Exports and Imports

A broader definition of 'housing imports' (including prefabricated houses and houses built mainly with imported materials or styles) has shown a similar trend in imports.

Housing Imports
Japan, 1992-1999



* Forecast
Source: Annual Imported Housing Survey

The 1997/1998 drop in imports is partly due to lower housing activity but can also be traced to the drop in the value of the yen. Housing importers forecast an increase in imports in 1999 but this has not yet been confirmed.

Foreign Exchange Rate
Japan, 1970-1999

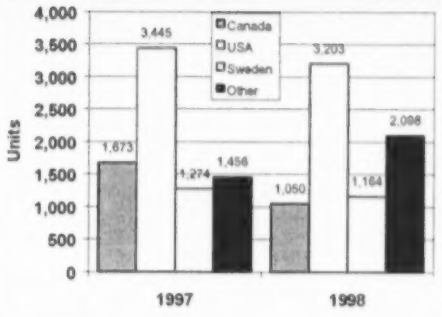
* October
Source: Statistics Canada

With the recent rise in the value of the yen, foreign products will be more competitive.

In recent years, as a result of the decline of the Canadian dollar compared to many other currencies (especially the US), Canada has not suffered as badly in terms of reduced competitiveness as some other countries.

The largest housing exporters to Japan (using the broad definition of housing) are the US, Sweden and Canada.

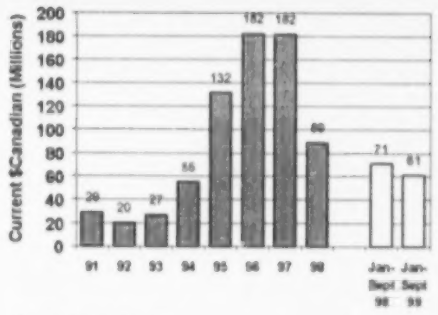
Housing Imports by Country
Japan, 1997-1998



Source: Annual Imported Housing Survey

Canada's prefabricated building exports to Japan have dropped significantly since 1997. They totalled only $89 million during 1998 – compared to $182 million in 1996 and 1997.

Exports of Prefabricated Buildings to Japan
Canada, 1991-1999



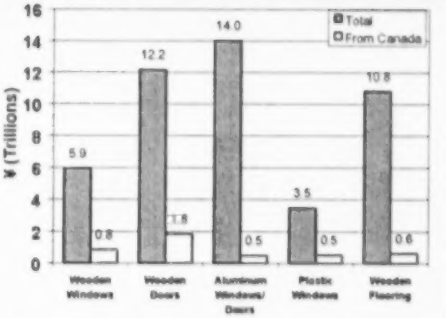
Source: Statistics Canada

So far in 1999, Canada's prefabricated building exports to Japan have dropped further.

This significant decline in housing exports is at least partially a reflection of the downturn in housing activity in Japan. However, the drop is much greater than the reduction in starts so there appears also to have been some loss of competitiveness in Canadian products.

Canadian suppliers still account for a relatively small share of the overall market for most types of imported finished building products in Japan.

Imports of Selected Building Products
Japan, 1998



Source: Japan Tariff Association, *Japan Exports and Imports 1998*

Potential Market Niches

Part of the purpose of the on-going work of CHEC is to assist Canadian companies in identifying potential market niches for their products. Based on the work undertaken in preparing this report, a preliminary assessment has identified the following promising potential market niches which appear to offer opportunities for increased penetration of Canadian housing in Japan.

Large-scale wooden buildings – regulatory changes have facilitated the use of wood in 3-storey and even 4-storey buildings. Canadian designs and materials are suited to these types of buildings, however, the competition from traditional wood designs and reinforced concrete is severe. Also, there are potential difficulties with obtaining the necessary structural engineering designs for the building application. There appear to be opportunities for Canadian designs not only in houses and multi-residential buildings, but also in other types of uses such as schools, temples and elderly-care facilities.

Building materials in non-wooden buildings – in the densely populated areas of many Japanese cities, most residential areas are zoned as quasi-fire protection areas. The building materials used for exterior finishes in these areas must have the appropriate fire-rating certification. Most imported windows, doors and exterior siding have not obtained the necessary ratings because of the lengthy and costly procedures involved. With deregulation, these procedures are being simplified so it will become less complex for foreign companies to access this market.

Seniors housing – the Japanese are very concerned about the continued ability of their elderly population to maintain independent lives and, when they become incapacitated, to obtain the care they require. The strong growth in the elderly population for the foreseeable future guarantees that this will be a significant and expanding market well into the next century.

Renovations – while not traditionally a major part of the Japanese housing market, renovation spending is growing in Japan and is expected to continue to grow in future. With an increasing share of new housing being built for a planned life-span much longer than those of traditional Japanese houses, it is likely that renovations will become more prevalent than they have been in the past.

Energy efficiency and healthy housing – the introduction of new building regulations, which promote more energy-efficient and healthy housing designs, provide increased opportunities for companies with expertise in these areas. Builders specializing in traditional Japanese houses are not generally familiar with these concepts.

With the substantial changes underway in Japan, in particular deregulation and the removal of regulatory obstacles for imported housing and building products, the Japanese housing market will be more open to companies seeking to export products and services.

Future Work from CMHC

In the coming months, CMHC will concentrate on further examination of potential market opportunities both in terms of products and regions within Japan.

While much of the housing activity in Japan occurs around the major centres, over half of the total is in other areas. These are considered to represent significant potential for Canadian housing exporters.

The Canadian embassy has identified the following areas as having significant potential for Canadian building products: Tohoku, Hokuriku (Niigata, Toyama, Ishikawa and Fukui), Greater Kansai (Shiga, Wakayama, Nara), Chugoku, Shikoku and Kyushu. The northern island of Hokkaido, which had housing starts ranging from 60,000-90,000 annually during the 1990s, along with the other northern regions of Tohoku and Hokoriku, has colder climates that are similar to parts of Canada.

CMHC is in the process of conducting additional in depth analyses of each of the regions in Japan. The purpose of this work is to identify the regions which offer particular opportunities for Canadian housing companies in promising market niches. The first of these regional analyses is on Kyushu and will be available shortly.

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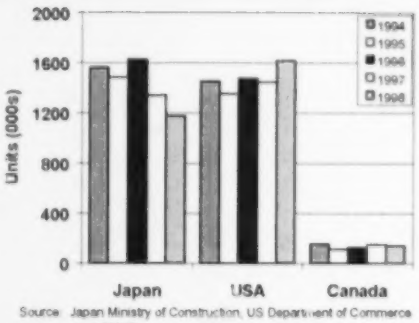
1 INTRODUCTION

Japan is one of the world's largest housing markets. Despite a downturn in activity in the past two years, Japanese starts still totalled almost 1.2 million dwelling units in the 1998 fiscal year – almost ¾ of the volume of US starts. Both Japan and the US, of course, dwarf the annual housing starts in Canada.

Annual Housing Starts
Japan, USA and Canada, 1994-1998



Source: Japan Ministry of Construction, US Department of Commerce and CMHC

While 1998-1999 likely marks the peak of the US housing cycle, in Japan, 1998 appears to have been the trough of the cycle. A modest increase to 1.23 million starts is expected in the 1999 fiscal year. While little change is expected next year, most forecasters expect Japanese housing starts to rise to 1.3-1.4 million units annually in the early years of the next century.

On an average annual basis, Japanese and US housing starts were almost equal over the 1994-1998 period – an average of 1.44 million starts annually in Japan, versus 1.47 million in the US.

For housing exporters, Japan is a very large and potentially lucrative market. Many countries (including Canada) are aggressively targeting Japan as a market for housing-related exports.

Canada is a leader in the development of new housing technologies – and the design and construction of high quality housing. Single-family housing, which comprises roughly half of annual Japanese housing starts, is particularly suited to Canadian wood-frame designs.

Canada is a leading exporter of building materials and services to Japan and has actively promoted the use of Canadian housing systems through a variety of initiatives. Imports of housing, however, comprise only a small share of total Japanese housing activity so expansion of this market share presents attractive potential opportunities for Canadian companies.

Access to market information and research expertise represents an important barrier to Canadian housing firms which are seeking to explore export opportunities in Japan. This report seeks to assist in overcoming this barrier by presenting an overview of recent trends in the Japanese housing market and imports of housing into Japan. Commissioned by the Canadian Housing Export Centre (CHEC), within Canada Mortgage and Housing Corporation (CMHC), the report is an update of a similar analysis completed in the Autumn of 1998.

CMHC is in the process of conducting additional in depth analyses of each of the regions in Japan. The purpose of this work is to identify regions which offer opportunities for Canadian housing companies in promising market niches. The first of these regional analyses relates to Kyushu – scheduled to be available soon after the completion of this report.

In addition to this introduction, the report is structured into the following chapters:

2. Economic and demographic trends
3. Government policies relating to housing
4. The housing stock
5. Housing construction activity
6. Housing imports
7. Potential market niches

In addition, there are appendices which present an introduction to the regions in Japan and an overview of the Japanese statistical system.

2 ECONOMIC AND DEMOGRAPHIC TRENDS

2.1 Economic Trends

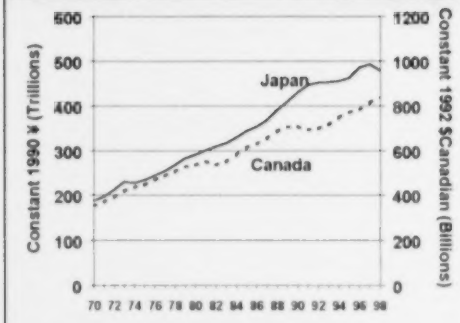
Economic Slowdown – Rare in Post-War Japan

The Japanese economy is expected to grow modestly this year, following a severe and prolonged slump – partly due to massive government stimulus packages. The recent economic weakness is in stark contrast to Japan's strong growth during most of the post-war period.

Prior to the 1990s, the Japanese economy had grown virtually uninterruptedly throughout the post-war period. As measured by Gross Domestic Product (GDP) in constant 1990¥, the economy grew by 137% from 1970 to 1991 – in comparison, the Canadian real GDP grew by 97% over the same period.

While impressive, this comparison vastly understates the real comparative growth in Japan, since the value of the yen rose from $2.92 per ¥1,000 in 1970 to $8.53 per ¥1,000 in 1991.

Real Gross Domestic Product Japan and Canada, 1970-1998



Source: Economic Planning Agency and Statistics Canada

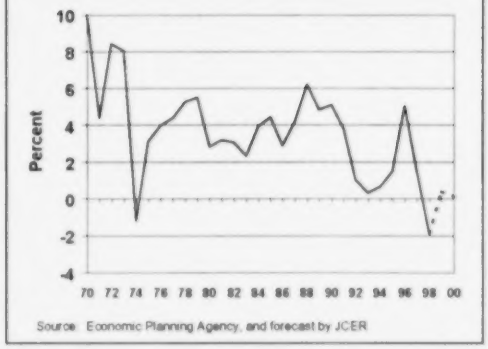
Not only was Japanese economic growth during this period stronger than in most other countries, it was relatively steady – only in 1974 did Japan experience a short period of negative real GDP growth. In all other years, real GDP grew by 2% or more. The average annual growth in GDP over the 1970-1991 period was 4.2%.

Slow Growth Since 1991 – Recession Started in 1998

Since 1991, and the bursting of the so-called 'bubble economy' in Japan, the economic growth story has been entirely different. GDP has stagnated for most of the period.

The total growth in real GDP since 1991 has been only 7.2% – an average of less than 1% growth annually. There was a temporary resurgence in the economy in 1995-1996 due to special cuts in income and residence taxes; however, this was not sustained.

Annual Change in Gross Domestic Product Japan, 1970-2000



Source: Economic Planning Agency, and forecast by JCER

In the 1998 fiscal year, the economy slipped into recession as GDP contracted by almost 2%.

The economy grew in the first quarter of the 1999 fiscal year, due to the delayed effects of economic stimulus packages in 1998 – $180 billion Cdn (April) and $320 billion Cdn in December. Real GDP grew by 0.8% compared to the first quarter of fiscal 1998. This reversed the trend of almost uninterrupted contraction in the economy since 1997; however, despite a

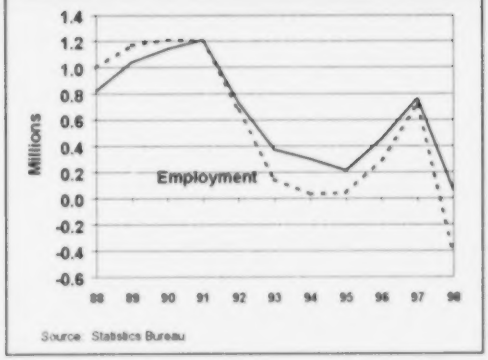
further $250 billion Cdn stimulus package announced in November 1999, it is unlikely that the first quarter's pace of economic growth will be sustained for the remainder of the year.

Forecasters are projecting modest growth for 1999-2000. According to the Japan Centre for Economic Research (JCER), real GDP will rise by 0.4% in 1999, and be stable (0.1% growth) in 2000. Growth remains almost solely dependent on fiscal stimulus. It is unclear whether a self-sustaining private sector recovery can begin – particularly (see below) with the stronger yen.

Unemployment Rising

With the slowdown in economic growth since 1991, employment growth also stagnated – dropping to only marginal levels between 1993 and 1995 before recovering in 1996 and 1997.

Growth in Employment and Labour Force
Japan, 1988-1998



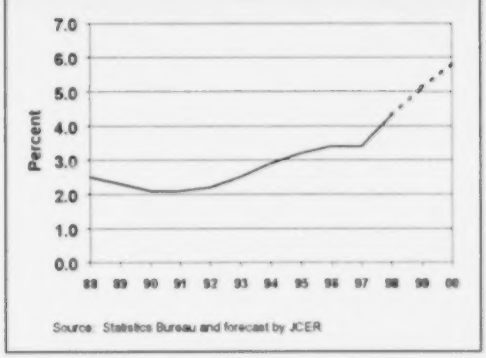
Source: Statistics Bureau

However, with the recession, there was a significant drop in employment. On an average annual basis, employment in Japan dropped by over 400,000 jobs between 1997 and 1998.

The slowdown in the Japanese economy has also led to a decline in the labour force as fewer people sought jobs. The reduction in the labour force was less than the drop in employment, so there has been a rise in the unemployment rate to unheard of (for Japan) levels.

In September, 1999, the unemployment rate was 4.6% – compared to 4.3% in September 1998 and 3.4% for 1997 as a whole.

Unemployment Rate
Japan, 1988-2000



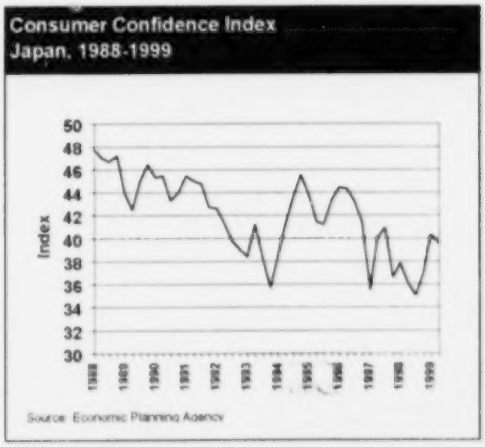
Source: Statistics Bureau and forecast by JCER

Forecasters expect Japan's unemployment rate to continue to increase over the next couple of years. JCER forecasts average unemployment of 5.8% for Japan in 2000.

Improved Consumer Confidence Due to Fiscal Stimulus

Japan's consumers have not been a positive factor in the economy for some time. Consumer confidence has fluctuated during the 1990s but it has generally been well below the levels of the late 1980s and early 1990s.

Consumer Confidence Index
Japan, 1988-1999

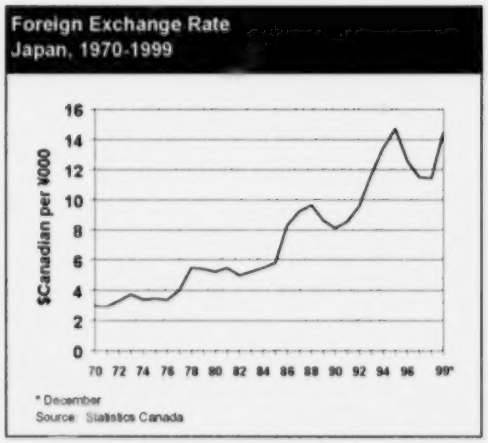


Source: Economic Planning Agency

Consumer confidence was particularly weak in 1997 and 1998; however, it has recently risen to roughly the average level for the 1991-1998 period. Japanese economists trace this improvement mainly to the fiscal stimulus applied during 1998 and there is some question how long these can continue to be effective.

Strong Recovery in the Yen in 1999 Following Drop in 1996-1998

Over the 25-year period following 1970, there was a seemingly inexorable rise in the value of the Japanese yen. It rose to a peak of $14.65 Cdn/¥1,000 in 1995. This was roughly 5 times its 1970 value of $2.92 Cdn/¥1,000 – the level which it held relatively constantly since the early 1950s (Japan had foreign exchange controls during this period).



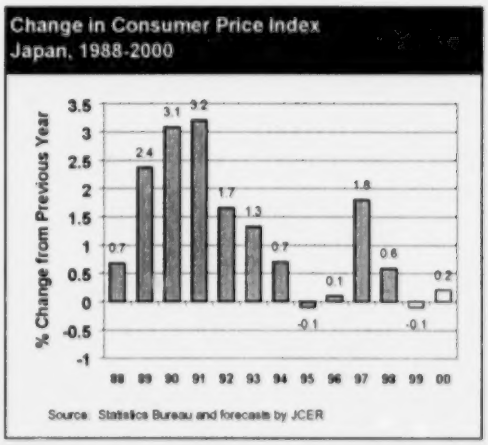
The only significant interruption in the increase in the value of the yen (compared to the Canadian dollar) since 1970 was the 1989-1991 period which corresponded with the high anti-inflationary interest rate policy in Canada (the period when the Canadian dollar achieved an average of 87¢US in 1991).

Between 1995 and 1997, the value of the yen declined significantly – it then stabilized vis-à-vis the Canadian dollar and, in recent months, has staged a recovery. Due to the weakness in the Canadian currency over this period, the decline in the value of the yen compared to the Canadian dollar was less than its decline in value relative to the currencies of most other industrialized countries.

In recent months, the yen has increased in value significantly. From an average of $11.40 Cdn/¥1,000 in 1998 the yen increased to $14.40 Cdn/¥1,000 in December 1999 – only marginally below the 1995 peak. The growing strength of the yen, of course, makes imported products substantially less expensive in Japan.

Decline in Consumer Prices in 1999

Consumer price changes in Japan have been comparatively modest over the past decade. During the late 1980s and early 1990s, when increases in the Canadian consumer price index (CPI) averaged 4-5%, Japanese prices rose much more modestly – peaking at 3.2% in 1991.



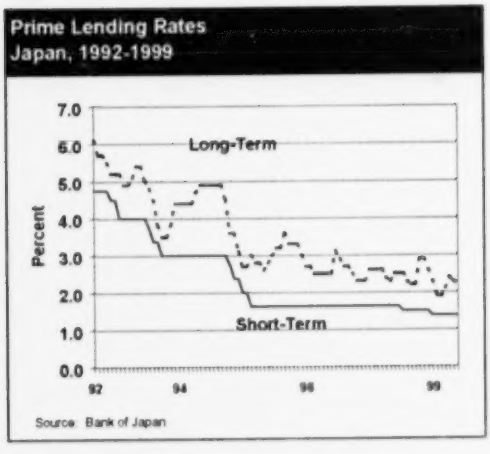
In the period since the early 1990s, the CPI has been relatively stable. While a slight decline in consumer prices is forecast for this year, in most years, there have been modest increases in the CPI. Nonetheless, the spectre of deflation (particularly in the real estate market) has loomed in Japan since the bursting of the bubble economy.

Since CPI measures released by most national statistical agencies overstate the actual level of

inflation, the relatively modest changes in Japanese CPI over the period since the mid-1990s likely signal general price declines.

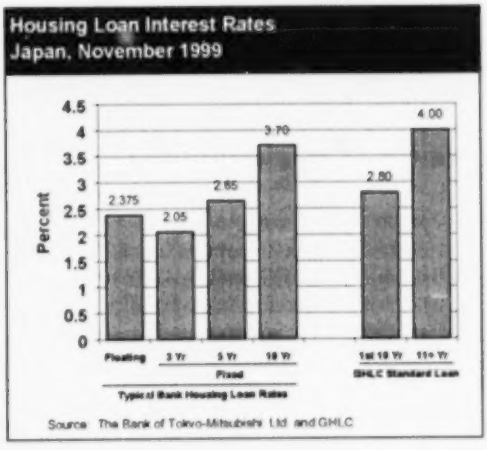
Extremely Low Interest Rates

In an attempt to stimulate economic activity, the Bank of Japan progressively reduced interest rates throughout the early 1990s.



With little room for further stimulation through monetary policy, economic policy attention has focused on fiscal measures as the favoured means of encouraging economic growth. There has been increased funding of large government capital projects. And, policy-makers are increasingly promoting tax cuts. However, Japan has a very high savings rate – which has not changed significantly over the past two decades. Therefore, the extent to which tax cuts would flow through to increased consumption and investment is not as high as in other countries.

In addition to their intent to stimulate the overall economy, the low interest rates are also positive for housing. The Government Housing Loan Corporation (GHLC) lends at favourable interest rates for both homebuyers and rental investors. The GHLC recently modestly increased its lending rate to 2.8% for the first 10 years (from 2.6%). This is less than the comparable rate for 10-year term loans from commercial banks.



Some companies also provide low-interest housing financing for their employees.

Prior to the bursting of the bubble economy in the early 1990s, housing loans were provided by seven Jusen (housing loan banks). All have now disappeared under the weight of bad loans.

The main banks offer housing loans which are often used as interim financing since GHLC contracts are not finalized until completion. Banks also offer financing to developers and to home buyers where GHLC loans are not sufficient to cover all their financing needs.

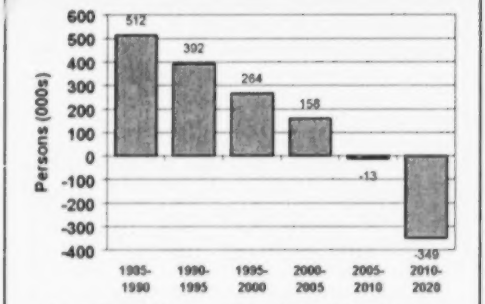
2.2 Demographic Trends

Slow Population Growth to 2005 – Then Declines

Due to an aging population and declining birth rates, the rate of population growth is declining in Japan. From the current rate of just over 260,000 per year, population growth is projected to decline over the next decade – to a level of relative stability during the 2005-2010 period.

In the decade after 2010, the population of Japan is projected to decline by an average of almost 350,000 annually.

Average Annual Population Growth
Japan, 1985-2020



Source: Population Census and National Institute of Population and Social Security

In comparison, population growth in Canada averaged roughly 325,000 persons annually during the 1991-1996 inter-Censal period.

Also, in Canada, the effects of low birth rates on population growth are masked by immigration of 200,000+ people annually. In Japan, there is virtually no immigration – visitors are allowed into the country only on temporary visas. Non-Japanese nationals cannot borrow to purchase land. In effect, no foreigner can own land unless in possession of a permanent visa – which usually requires marriage to a Japanese national.

The slowdown in population growth (and the subsequent decline in population) in Japan has important ramifications for housing demand. Without population growth, there is less net demand for new housing – other than through continued reductions in household sizes (which are, in fact, projected to occur – see below).

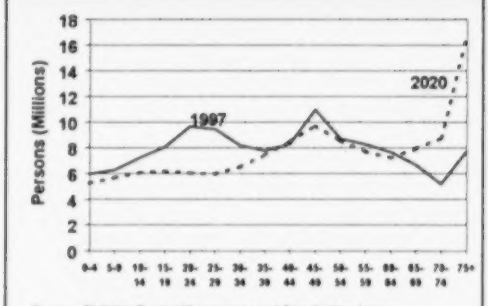
Also, in Japan, as is discussed in Chapter 4, a large proportion of new housing starts are required to replace demolished dwellings.

Flat Age Structure of Japanese Population

For Canadians familiar with the baby boom bulge in population born between the late 1940s and mid-1960s, the relatively flat age structure of the Japanese population in 1997 is a novelty.

There is only a modest bulge in the 45-49 age group in 1995. These are late 1940s/early 1950s births – the same period as the leading edge of the Canadian baby boom generation.

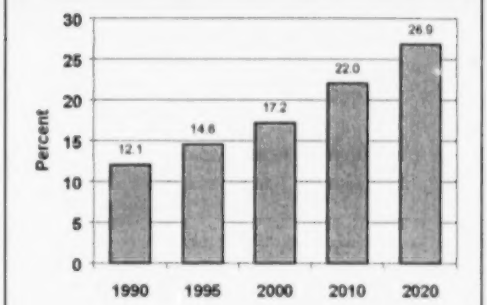
Age Structure of Population
Japan, 1997 and 2020



Source: Statistics Bureau Management and Coordination Agency, National Institute of Population and Social Security Ministry of Health and Welfare

The projected age structure of the population is a concern in Japan. The combination of declining birth rates and increased longevity will lead to a significant increase in the elderly share of the population.

Percent of Population Aged 65+
Japan, 1990-2020



Source: Statistics Bureau, Management and Coordination Agency

By 2020, people aged 65+ are projected to total more than 33 million. By 2020, the elderly are projected to grow (both in absolute and percentage terms) to over one-quarter of the total population – compared to about 16% today.

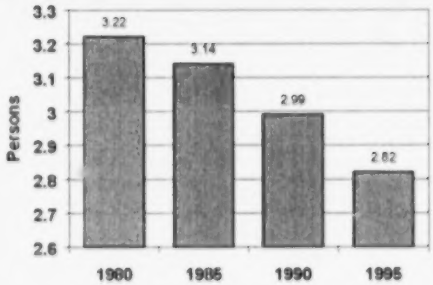
With the elderly accounting for an ever-greater proportion of the population, the growing cost of pensions and services to the elderly is a major concern to Japanese policy-makers – particularly with the projected shrinkage in the working-age population during the same period. Reforms are underway to deal with this problem.

Canada also faces an increase in the proportion of elderly people – though nowhere near to the same extent as Japan. Given the growth in the Japanese seniors population, Canadian initiatives such as 'barrier-free access' to housing could be attractive to the Japanese.

Smaller Average Household Sizes

As in most industrialized countries, average household sizes are declining in Japan. The average was 2.82 persons in 1995 – down from 3.22 in 1980 and 2.99 in 1990.

Average Number of Persons per Household Japan, 1980-1995



Source: Population Census of Japan, Statistics Bureau, Management and Coordination Agency

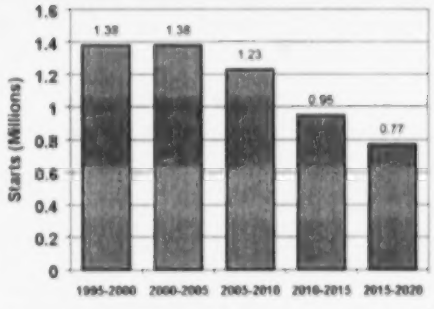
With smaller families due to low birth rates and increased numbers of (frequently widowed) elderly people, the average household size in Japan is likely to continue to decline.

Reduced Demand for Housing in the Long-Term

Given the long-term trends in population, the demand for new housing will inevitably decline in Japan. However, the effects of the slow growth and subsequent reductions in the size of the Japanese population projected for the 2000-2020 period will be offset to a large extent by the continued expected reductions in average household sizes.

Even with a smaller population, further reductions in average household sizes, plus the relatively short life-span of Japanese dwellings (discussed in Chapter 4), can be expected to result in a substantial (though smaller) number of housing starts in Japan. By the 2015-2020 period, it is expected that housing starts will average only slightly more than half of current levels.

Projected Average Annual Housing Starts Japan, 1995-2020



Source: Housing Research Foundation

For the early years of the next century, housing starts are expected to be roughly the same (on average) as during the 1995-2000 period.

3 GOVERNMENT POLICIES RELATING TO HOUSING

Government Policies – Very Important to Housing Industry

In any country, government policies play a very important role in establishing the environment for the housing industry and housing consumers. Governments in Japan have a more pervasive role than in Canada.

For example, the national government's five-year housing programs establish specific goals with respect to housing standards and set targets for the numbers of units to be built by both the private and public sectors. All levels of government (national, prefecture and local) are involved in housing programs. Governments are also involved both in the construction and management of rental housing, and in the supply of housing and housing lots for sale.

The national government's initiatives towards housing are directed mainly through the Ministry of Construction (MOC), Housing and Urban Development Corporation (HUDC) and the Government Housing Loan Corporation (GHLC):

- The Ministry of Construction determines the five-year program and directs the activities of the HUDC and GHLC.
- HUDC is responsible for the construction and management of the government's rental housing and the supply of land.
- The GHLC provides loans to individuals and developers at below-market rates.

All three organizations have an important role to play within Japan's housing system – a much more pervasive role than is the case with public sector institutions in Canada.

For example, in the early 1990s, at the time of the bubble economy, it became apparent that there was a need for additional land to accommodate new residential development in the major centres. This was translated into action through changes in the 'Special Measures Law for Facilitating the Supply of Housing and Residential Land in Metropolitan Areas'. These changes promoted the effective and intensive use of unused or underused land – including farmland inside an urban area, newly built-up areas, or existing residential neighbourhoods.

Clearly, the government of Japan adopts a much more 'hands-on' approach to housing and urban development issues than is the case in Canada – the countries have significantly different constitutional, social and economic systems.

This chapter reviews some of the recent (and upcoming) changes to government policies which are having an effect on the housing industry in Japan – and which will, therefore, be important to those considering exporting into the Japanese housing market.

Promotion of Imported Housing

At the time of the bubble economy, the affordability of housing deteriorated significantly. In addition to measures to free up additional land for housing, the government established the Imported Housing Promotion Council in 1993 in an effort to reduce the construction cost of housing.

The Council released an 'Action Program for Reduction in Housing Construction Costs' in 1994, which stated:

"According to the Action Program, [MOC] expects to reduce the construction cost for an average home to approximately two-thirds of the current level by 2000. To this end it was deemed necessary to promote structural changes in order to encourage fair market competition.

[MOC] will also be implementing policies to cover the following areas:

- Improving housing productivity
- Streamlining the distribution system
- Promoting fair competition
- Implementing practical deregulation."

It was also decided "to review basic guidelines for implementing a mutual approval system and accepting inspection data from overseas manufacturers in order to promote imported building materials." (*Action Plan for Reduction of Housing Construction Costs*, Imported Housing Promotion Council, June 1994).

Subsequently, the government sought to encourage more foreign housing imports through deregulation and internationalization of building standards and regulations. Changes to the Building Standards Law to promote more performance-based standards were part of this effort, as were the harmonization of Japanese standards with international standards.

The clear intent of these changes was to encourage greater competition and a reduction in housing costs. At the same time, there were efforts to move away from the inefficient traditional hierarchical distribution system and to source materials more directly from overseas suppliers.

Reorganizing the Structure of Government

In April 2001, the structure of the Japanese government will change significantly for the first time since the war. MOC will become part of the Ministry of National Land and Transportation (a combination with the Ministry of Transportation and the Land Planning Agency).

In the past, the budget allocations for each of these ministries has included more or less fixed sums for public construction works. However, the new organization is designed to achieve downsized, effective and efficient government so it is expected that the budget allocation system may be rationalized – and cut back. This could create serious difficulties for the overall construction industry in Japan due to its heavy dependence on government contracts.

Deregulation – Major Changes for the Housing Industry

The government embarked on a three-year program of deregulation in 1998. For the housing industry, this continues the process of reforms which started in the early 1990s with the promotion of housing imports.

According to a recent (March 1999) cabinet decision, the aims of deregulation are:

- To create a free and fair socio-economic system that is fully opened to the international community and based on the rules of self-responsibility and market principles; and

- To shift emphasis in public administration from rigid prescribed regulations to monitoring of compliance with general rules.

Deregulation is being promoted through the following process:

- Regulations shall be abolished or otherwise relaxed under the principle that economic regulations shall be lifted and social regulations minimized;
- Regulatory arrangements shall be rationalized by, for example, the introduction of inspection by the private sector;
- Regulations shall be made simpler and clearer;
- International harmonization of regulations;
- Speeding up of regulatory procedures; and
- Transparency in procedures for formulating regulations.

Among the areas targeted by the government for deregulation which will impact on the housing

sector are: competition policy; housing, land and public works; distribution; standards and specifications, and inspection and certification; finance, securities and insurance; employment and labour; and waste and environmental preservation.

Some of the specifically targeted regulations with respect to construction include:

- Shifting to performance-based regulation;
- Review of sun exposure regulation;
- Review of basement floor regulation;
- Enabling the construction of 3-storey wooden multi-dwelling buildings in quasi-fire protection zones;
- Establishing a rating system for housing envelopes;
- Review of wind resistance design standards for windows in high-rise building; and
- Approval of integrated solar-cell roofing materials.

Historically, the Building Law and other legislation related to the building industry followed the traditional housing practices in terms of structural guidelines and home builders' business matters. One of the main purposes of the review is to make the regulations relating to the industry more transparent.

It is expected that these changes will be received favourably by the housing industry. They are likely to create new business opportunities and products designed to capitalize on the changes. Most importantly, they also create opportunities for international businesses – which have no interest in the traditional business protocols which have hampered imports in the past.

Quality Assurance Legislation for Housing

The government has announced its intention to require that new housing meet new performance and warranty standards:

- There will be new specifications for the performance of housing in areas such as structural safety, durability, soundproof quality (for walls and floors), energy efficiency, fire resistance, light and ventilation quality, and suitability for the elderly. These specifications will be established following public hearings.
- 10-year warranties will be compulsory for new housing.

There has been mixed reaction in the building industry with respect to this new law. In general, it appears to be most advantageous to larger builders because the standardized housing system that they employ will make it easier to meet the requirements. However, it appears likely that some of the small and medium-sized builders will take this as a new business opportunity to differentiate their houses from those of competitors.

Nonetheless, it would appear that the new regulations will present problems for many of the very small builders who lack technical knowledge and have not considered issues such as envelope quality before. To assist these small builders in meeting the requirements, some of the manufacturers of building elements have commenced to provide a technical guidance service in terms of effective installation methods and testing services. Companies seeking to export to Japan could provide similar services to enhance the acceptance of their products by builders.

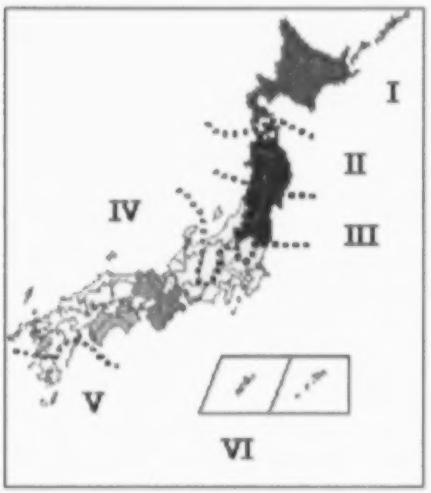
Energy Conservation

The Japanese government has begun moving towards the goals of the Kyoto international conference on climate change. In the housing sector, MOC has formulated new energy conservation standards with respect to design and construction for new housing.

These standards include heat transmission coefficients, specifications regarding openings, air tightness standards, annual heating and cooling demand controls, compensation for using passive solar energy, prevention of condensation within the envelope, and

ventilation systems to maintain indoor air quality.

Japan is divided into six climatic zones for the purposes of application of the energy conservation measures.



Individual cities and towns are sub-classified according to local micro-climatic conditions.

It seems likely that these new requirements will create opportunities for importers of housing and building components from other countries (such as Canada) which have been pioneering energy conservation in housing.

Healthy Housing

While healthy housing is not yet well recognized in Japan, there have been increasing concerns among Japanese homebuyers regarding issues such as formaldehydes and volatile organic compounds (VOCs). These concerns have triggered the enthusiastic attention of many Japanese builders (and some consumers) to the concept of healthy housing.

The government has also acted in this area. The Housing Quality Assurance Act included special provisions to ensure the consideration of measures to address 'sick house' syndrome. The government is preparing special healthy housing parameters to be included in the performance criteria for the new legislation

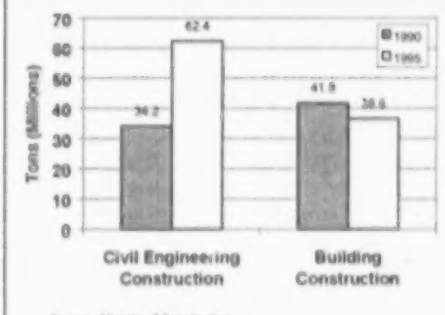
With the promotion of Healthy Housing in Canada by CMHC, it seems likely that there would be a market for Canadian expertise and products in this area in Japan. At present, no other countries appear to be promoting healthy housing or specifically health-oriented products or envelope quality.

Construction Waste

Waste generated by construction is estimated to account for almost 40% of total waste generated in Japan. With growing concerns about the environment, there has been pressure for a reduction in the volume of waste generated from all sources – including construction.

A construction by-product study undertaken by MOC in 1995 (the latest available) indicated that construction waste had increased by 30% compared to 1990. The increase was due to higher waste generation from civil engineering construction. Waste from building construction actually declined marginally in 1995 compared to 1990.

Construction Waste
Japan, 1990 and 1995



Source: Ministry of Construction

It appears that the reason for much of the increase in waste in civil engineering construction can be traced to the Hanshin Awaji earthquake; however, the volume of waste

generated by construction is considered to be too high. The government has moved to reduce the amount of construction waste on several fronts.

The Demolition and Recycling Act is planned to be enacted in 2000. The intent of this legislation is to encourage the establishment of recycling facilities and the use of recycled materials.

In addition, MOC has revised the procedures for proper treatment of construction by-products in order to discourage the amount of waste generated during construction, as well as re-use of materials.

Finally, the GHLC has increased the maximum loan for disposal of demolished buildings to ¥1 million per house. This is intended to compensate for the higher disposal costs associated with demolition and to reduce the volume of illegal disposal of waste.

Many large builders are researching how to reduce construction waste. Imported products will face the same regulatory requirements as Japanese products and will also need to inform builders about the content of their products and recommended disposal methods.

Conclusion

While the government plays a very important role in the housing sector in Japan, the actual operation of the housing industry has for a long time been relatively untouched by government policies and regulations. This has been due partly to the historical legacy of the industry comprised of Komuten-type small builders with skill-based craftsmen.

With the changes being introduced by the government, regulations will be more transparent and more rigidly enforced. It is not entirely clear how this will affect small builders. Some will no doubt be forced from the market. Others may form consortia to acquire the technical information required to build in the new regulatory environment and the increased competition from larger builders. Since the housing industry has considerable local support and knowledge of specific conditions in terms of climate and terrain, there is little doubt that many of the small local builders will survive.

However, it is clear that the government wants thorough change in the industry. There seems little doubt that these changes will create opportunities for imported housing products.

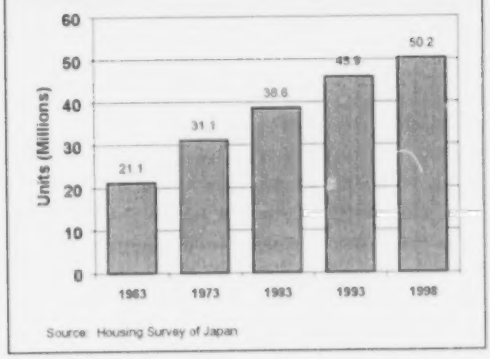
4 THE HOUSING STOCK

4.1 Housing Conditions

Progressive Growth in the Stock

In the late 1940s and 1950s, redressing the shortages due to the destruction during World War II was the first priority. Even as late as 1963, the number of households (21.8 million) exceeded the size of the housing stock (21.1 million with 500,000 vacant units).

Total Housing Stock
Japan, 1963-1998



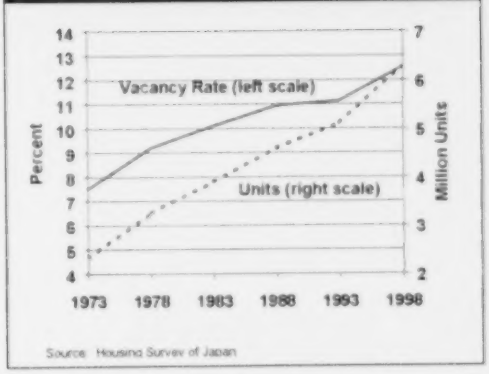
By 1998, the housing stock had increased to 50.2 million units.

Housing Conditions Have Improved Significantly

The chronic overcrowding which characterized the Japanese housing market in the initial post-war period, and extended into the 1960s, is now a distant memory. As noted, even in 1963, the number of households in Japan exceeded the total number of units in the housing stock (including both occupied and vacant units).

Due to high levels of new housing production throughout the post-war period, the shortages have been overcome – in 1998, over 12% of the housing stock (6.3 million units) was vacant.

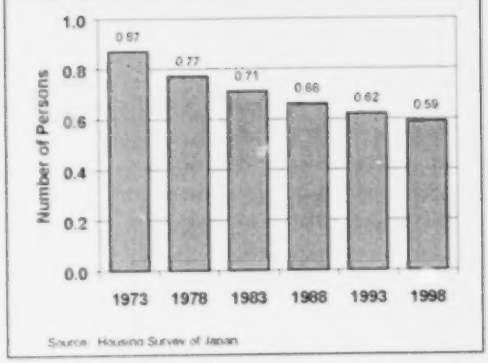
Vacant Dwellings
Japan, 1973-1998



Dwellings may be classed as vacant for a variety of reasons, including second homes (420,000 units), temporary occupants (394,000 units), under construction (166,000 units) as well as other reasons. In 1998, a total of 3.5 million units were classed as unoccupied because they were for rent or for sale – 7% of the total stock.

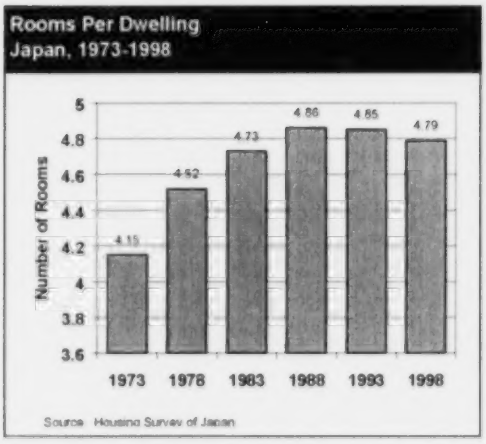
The trend in average people per room provides another illustration of the reduced overcrowding in Japan – the average number of people per room dropped from 0.87 in 1973 to 0.59 in 1998.

Persons Per Room
Japan, 1973-1998

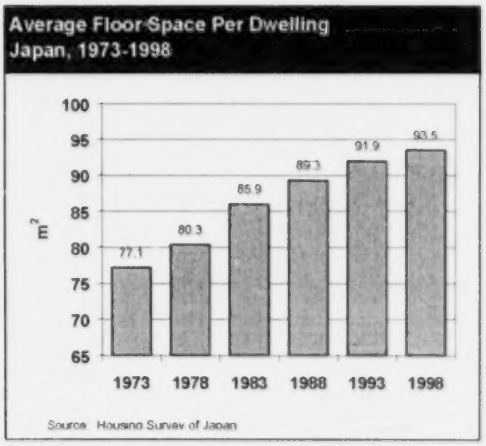


The reduction in overcrowding has been achieved as a result of a number of factors. These have included an increase in the housing stock (as noted above), as well as increased dwelling sizes and a reduction in average household size.

The average number of rooms per dwelling increased from 4.15 in 1973 to 4.86 in 1988. Since then, there has been a modest decline in rooms per dwelling – no doubt due to the increased share of apartments in the dwelling stock.



The floor space per dwelling also increased progressively during the 1973-1988 period – from an average of 77.1 square metres per dwelling in 1973 to 89.3 square metres in 1988.



In the last decade, the increase in floor space per dwelling has been more modest – the average in 1998 was 93.5 square metres (roughly 1,000 square feet).

Room sizes have also increased – to an average of 19.5 square metres per room in 1998 from 18.5 square metres per room in 1973.

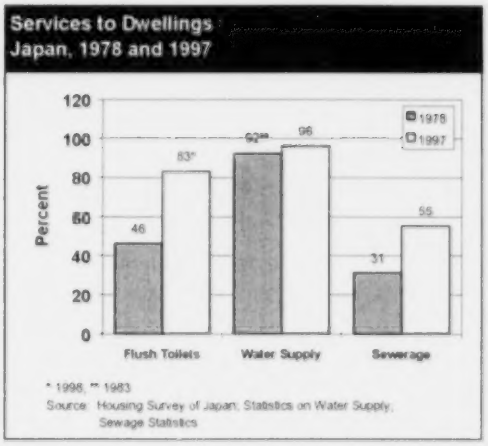
There is a significant difference between the average size of owner-occupied dwellings (122 square metres – roughly 1,300 square feet) and renter-occupied dwellings (45 square metres – roughly 485 square feet).

The data here are from the Housing Survey of Japan – undertaken every 5 years, most recently in 1998. The Population Census (taken most recently in 1995) does not collect data on the dwelling stock.

Another major factor behind the reduction in the average number of persons per room in recent years has been the decline in average household sizes – from 3.22 people in 1980 to 2.82 in 1995 (see Chapter 2).

Better Services to Dwellings

Services to dwellings have also improved. For example, the proportion of Japanese dwellings with access to flush toilets increased from less than half in 1973 to 83% in 1998.



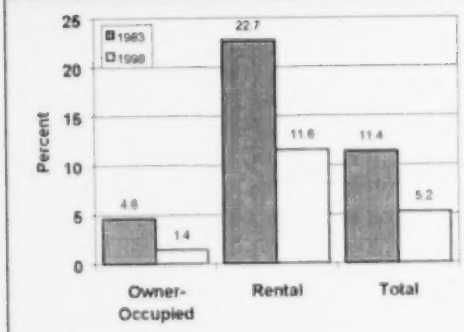
Virtually all Japanese dwellings have access to a supply of piped water. However, only just over half of the dwellings have access to sewers.

Clearly, while there have been significant improvements in the Japanese housing stock in terms of dwelling sizes and services to dwellings over the past two decades, there is still a long way to go by Canadian standards.

Most Dwellings Satisfy The Relatively Low Minimum Standards

According to criteria established by the government, in 1998, 5.2% of all occupied dwellings did not meet the 'minimum standard'.

Dwellings Below the "Minimum Standard"
Japan, 1983 and 1998



Source: Housing Survey of Japan

As noted earlier, there has been a progressive improvement in the size and quality of the stock over the post-war period. The proportion of dwellings which do not meet the minimum standard has declined from 11.4% in 1983.

Most of the stock that does not meet minimum standards are rental units.

The minimum standards in Japan relate to dwelling sizes and amenities – and they are fairly spartan by Canadian standards. The minimum 18 square metre standard for the net floor area for a single person translates into 194 square feet. The 39 square metres for three people translates into 420 square feet.

Minimum Housing Standard
Japan, 1996 5-Year Program

Number of Household Members	Bedrooms	Kitchen/ Dining	Net Living Floor Area per Unit (m^2)**	Net Floor Area per Unit (m^2)***
1	1	K	7.5	18
1*	1	DK	15.0	25
2	1	DK	17.5	29
3	2	DK	25.0	39
4	3	DK	32.5	50
5	3	DK	37.5	56
6	4	DK	45.0	66

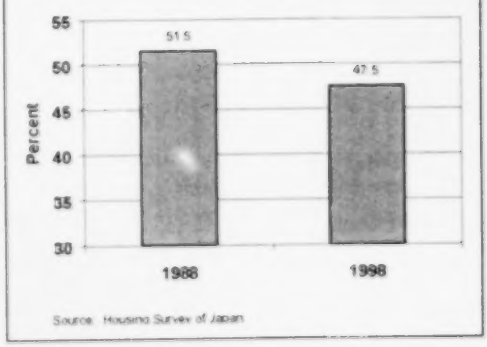
* Middle-aged or elderly
** Includes bedroom, kitchen and dining room
*** Includes bedroom, kitchen and dining room, toilet, bathroom and closet, excludes balcony
Source: Ministry of Construction

These minimum standards related to the 7th 5-Year Program (1996). The standards have been maintained from the previous 5th and 6th 5-Year Programs (1986 and 1993).

Many Japanese Unhappy With Their Current Housing

Large numbers of Japanese households are dissatisfied with their housing. According to the Housing Survey of Japan, 47.5% of households expressed dissatisfaction with their current living conditions in 1998.

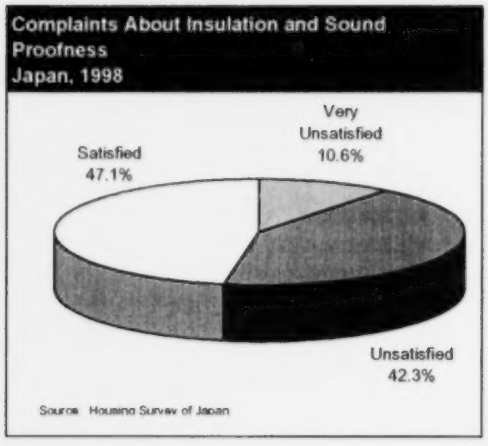
Dissatisfaction with Current Living Conditions
Japan, 1988 and 1998



Source: Housing Survey of Japan

The proportion of dissatisfied households declined only modestly from the 51.5% which expressed dissatisfaction a decade earlier.

The major factors contributing to dissatisfaction were: insufficiency of storage space, noise and insufficient insulation, 'wear and tear of the house' and kitchen facilities and space. In terms of insulation and soundproofness, for example, over 10% indicated that they were 'very unsatisfied' and 42% indicated they were 'unsatisfied' with their current dwelling.



A survey of households intending to acquire a new home indicated that their major motivation to move related to inadequate floor space or numbers of rooms, as a result of changing household circumstances – 92% indicated that 'expected layout and size' was the primary consideration. Sufficient storage space, durability, and 'facing south' were other key considerations. On average, buyers intended to increase the size of their dwelling by almost one-third – from 105 to 136 square metres.

Other problems relating to the living conditions of typical households include the fact that roughly 40% of Japanese residences face roads with widths of less than 4 metres. Long commuting times are another frequently cited problem: in 1998, the average commuting time for workers in the Tokyo metropolitan area was almost 50 minutes – 15% faced commutes of over 90 minutes.

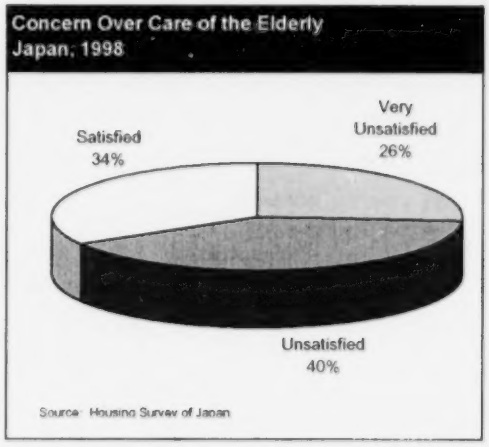
In part, Japanese dissatisfaction with their housing can be traced to the growing affluence and exposure to western influences – such as different styles of interior and exterior designs. For the younger generations, traditional tatami mat rooms and the Japanese style of living associated with sitting on the floor are less popular. Many people are adopting the western table and chair lifestyle – and the changes in interior designs that go with that lifestyle.

Recently, the Imported Housing Industries Organization has established a qualification system for a 'lifestyle planner' – a qualified person to advise homebuyers on selection and interior decoration to meet changing lifestyles. Advice from the lifestyle planner could include more open planning concepts in homes as well as maintenance of indoor air quality.

The Elderly – a Major Priority

A key issue for Japanese housing policy (prominent in the current 5-Year Program) is ensuring that the growing elderly population has housing which is adequate to their needs, and their deteriorating physical abilities. The number of elderly Japanese is growing – and will continue for the foreseeable future.

Only one-third of Japanese are 'satisfied' with the care of the elderly at home in Japan. Over one-quarter are 'very unsatisfied'.

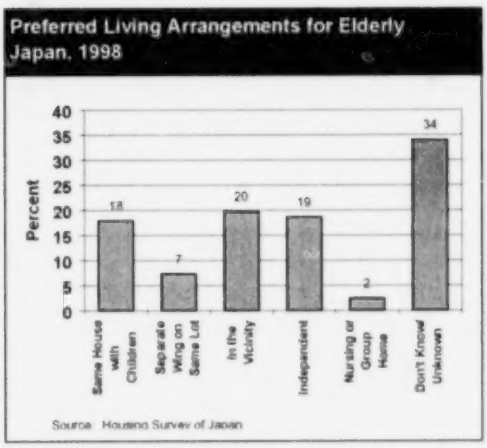


Clearly, most Japanese do not believe that their houses have the appropriate designs or amenities to provide proper care for the elderly at home.

The types of renovations required to address the needs of the elderly include work to facilitate free movement by wheelchairs and remove differences in levels, as well as adding handrails to assist in easier movement.

In 1989, the Ministry of Health and Welfare formulated the Gold Plan to provide home care services and elderly care facilities in response to this growing need. In 1994, a new Gold Plan was established to provide upgraded care for all elderly people who require services to live independent lives. In addition to a substantial commitment for new facilities (e.g. care homes, etc.), the new Gold Plan is targeted at increasing access of the elderly to services such as home helpers, visiting nurses, catering, day care, and emergency call systems. In addition, the plan calls for deregulation and flexible application of regulations to facilitate the needs of the elderly.

It appears that the Gold Plan will not meet its targets in terms of increasing the facilities to accommodate the elderly requiring care – especially in the major population centres – due to high land costs.



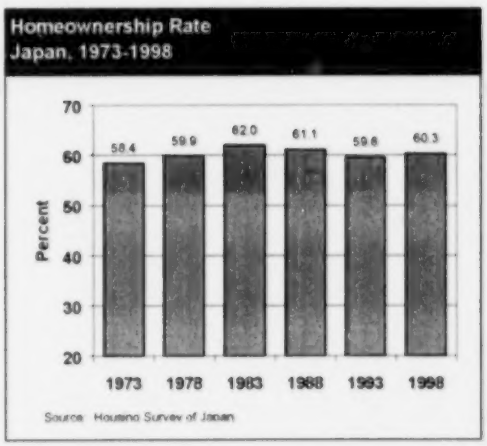
The preferences and needs of the elderly are, of course, diverse. Preferred living arrangements depend on a variety of factors and include large numbers (one-quarter of those answering) who would like to live in close proximity to their children – in the same house or on the same lot. A further 20% would like to live in the vicinity of their children and a similar number would like to live 'independently'. Few of the elderly would like to live in nursing or group homes.

The estimates presented above understate elderly preferences for the various forms of living arrangements – roughly one-third of the elderly did not answer the question or indicated that they did not know what their preference was.

4.2 Homeownership

Most Japanese Own Their Homes – Little Change in Overall Ownership Rates in Recent Years

Roughly 60% of Japanese households own their home. With only modest fluctuations, the rate of homeownership has remained much the same over the period since the early 1970s.



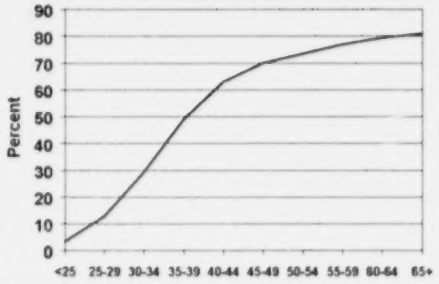
Most of the rental stock is privately-owned – only 13% of the rental stock (7% of the total stock) is publicly-owned. The remainder is owned by private companies and individuals – mainly for rental to third parties; however, 10% of the rental stock is owned by companies which rent dwellings to their employees.

The owner-occupied share of the stock is much lower in the major centres (e.g. 53% in the Tokyo area in 1998) than in other parts of Japan.

Falling Homeownership Rates Among Young Japanese

Homeownership rates vary across the life cycle of Japanese households in much the same way as in Canada. Young Japanese typically rent. As they age into their 30s, more Japanese become homeowners and, by the time they are 40, over 60% of households own their home.

Homeownership Rate by Age of Household Head
Japan, 1998



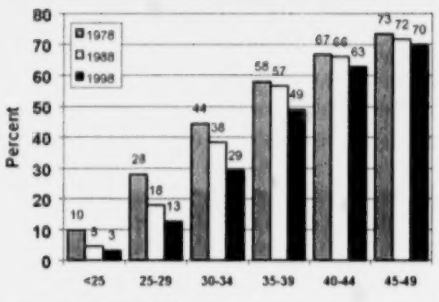
Source: Housing Survey of Japan

Though masked by the apparent relative stability of overall ownership rates around 60%, there has been a drop in the ownership rates of the under-50 age groups. Among those aged 25-29 (a key homebuying age group), the ownership rate dropped from 28% in 1978 to 13% in 1998. Similarly, in the 30-34 age group, the proportion who own their home dropped from 44% in 1978 to 29% in 1998. In contrast, by age 30-34, over 55% of Canadian households own their home.

A key reason the Japanese tend to purchase later in life relates to the high costs of housing relative to incomes. Ultimately, most Japanese become homeowners – possibly by inheritance. By age 60, 80% of Japanese households own their home. This is somewhat higher than the comparable 75% figure for Canada.

The drop in ownership rates over the 1978-1998 period is less pronounced for households near 50 – likely at least partly a result of inheritances of property from deceased parents.

Homeownership Rate by Age of Household Head
Japan, 1978-1998



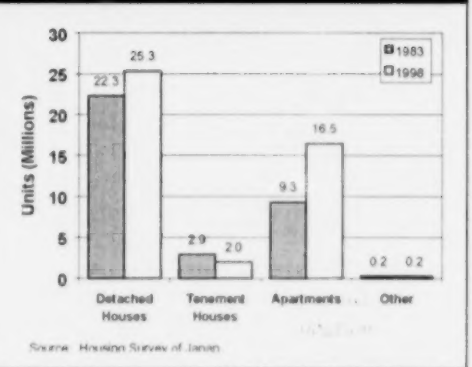
Source: Housing Survey of Japan

4.3 Dwelling Types

Mainly Houses But Apartment Share Rising

Detached houses (defined in Japan to include 2-unit dwellings) accounted for 58% of the occupied stock in 1998 – down from 64% in 1983. Tenements (townhouses in the Canadian definition) accounted for less than 5% – down from 8% in 1983.

Occupied Housing Stock by Dwelling Type
Japan, 1983 and 1998



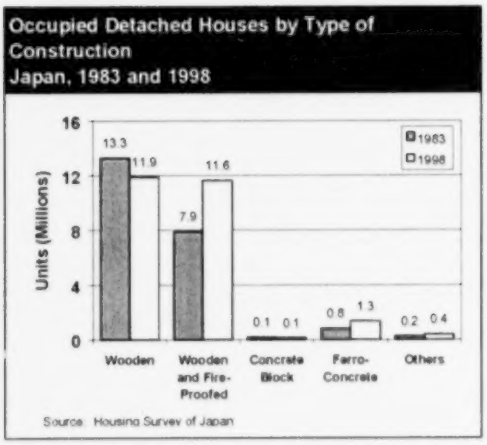
Source: Housing Survey of Japan

The apartment share of the Japanese housing stock is growing strongly – from 27% in 1983 to 38% in 1998.

In metropolitan areas, which account for roughly half of the total housing stock in Japan, detached houses and apartments have relatively equal shares. In other areas, the share of detached houses is much greater than for apartments.

Detached Housing Mostly Wooden – Apartments Mainly Concrete

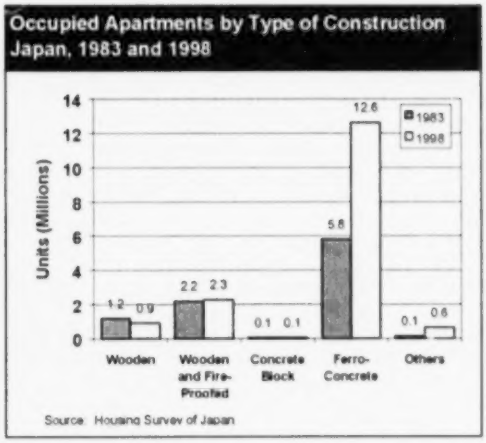
Wooden houses account for most of the detached housing stock – 23.5 million units in 1998 out of a total occupied detached stock of 25.3 million units. There has been an on-going shift towards fire-retardant wooden housing.



There has also been an increase in the number of concrete detached houses – high-tension concrete wall technology is used in these houses. The increase in 'other' types of houses are mainly light-gauge steel panelized systems.

Apartments are mainly of concrete construction. The number of concrete apartments more than doubled over the 1983-1998 period – and, based on recent construction trends, will continue to rise in the future.

A significant minority of apartments (3.2 million units in 1998) are constructed with wood. As with the detached stock, there has been an on-going shift towards fire-retardant wooden apartment buildings.



The increase in 'other' types of apartments is mainly steel. Three-storey apartment buildings are a primary target market for light gauge steel prefabricated housing.

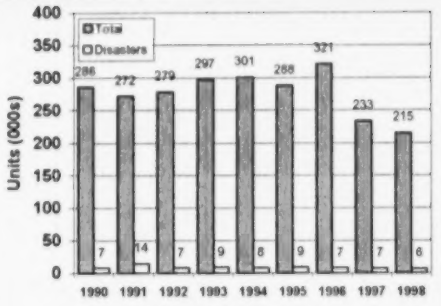
4.4 Re-Built Housing

Re-Builds – A Key Component of Japanese Housing

A major difference between the Japanese and North American housing markets is the size of the 're-built' market in Japan – new housing built on sites where older dwellings have been demolished. Demolitions of older housing averaged roughly 300,000 units annually over the 1993-1996 period. There were fewer demolitions in 1997 and 1998, likely due to the downturn in housing starts in those years.

Less than 10,000 units annually are demolished as a result of disasters (e.g. fire, floods and earthquakes) – most are demolished deliberately in order to obtain the vacant site for the construction of a more appropriate dwelling. In some cases, the lot may be subdivided to accommodate additional dwellings.

Demolitions of Housing Japan, 1990-1998



Source: Ministry of Construction

The data on demolitions may actually understate stock losses in Japan.. For example, the losses due to disasters appears suspect – the 1996 Hanshin Awaji earthquake which resulted in the death of 6,300 people is reported (by JETRO) to have completely or partially destroyed 200,000 dwellings in Hyogo prefecture.

The large number of demolitions is due to a variety of factors. One very important factor is the legacy of the large numbers of relatively small, poorly-constructed dwellings built to meet the urgent housing shortages following World War II. These dwellings are now over 40 years old, many are seriously deteriorated and most offer amenities and comfort well below the standards expected by modern Japanese consumers.

Another major factor is the extremely high price of land in urban centres in Japan – the housing itself is worth only a fraction of the value of the land in many locations.

Another factor is the relatively short life cycle of housing in comparison with other countries. Houses in Japan are rebuilt (i.e. demolished and replaced) on average every 25-30 years.

Recent land utilization reform and increased floor space ratios for housing in urban areas also make it more attractive for owners to demolish and rebuild.

Tax Deductions for New Homes

The income tax system provides yet more encouragement for the Japanese to demolish and rebuild their houses. Special income tax deductions are available for people who acquire a new home; such deductions are not available for those who purchase older homes.

The income tax deductions are based on a percentage of the value of the mortgage. In order to stimulate housing activity, the deductions were raised temporarily to a maximum of ¥500,000 (roughly $6,000 Cdn) for the first 6 years, ¥375,000 for the 7th-11th years, and ¥250,000 for the 12th-15th years. Previously, the maximum deductions were ¥350,000 for the first 3 years and ¥250,000 for the 4th-6th years. No deductions were available for subsequent years.

Maximum Annual Income Tax Deductions for New Houses

	Previous (¥000)	Now (¥000)
First 3 years	350	500
3-6 years	250	500
7-11 years	Zero	375
12-15 years	Zero	250

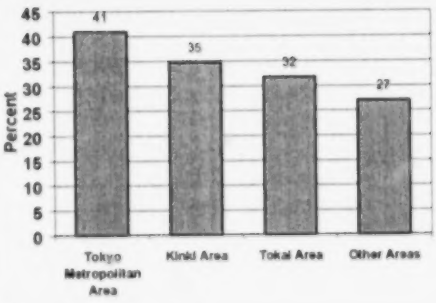
Over the full 15 year period, the maximum amount of the income tax deductions available for a new house total ¥5,875,000 (roughly $70,000 Cdn). These maximums are based on a home with a ¥500 million loan. A more modest (typical) dwelling with a ¥40 million loan would be eligible for a maximum deduction over the 15-year period of ¥470,000 million.

The deductions apply for the period from April 1999 for home owners moving into a home before the end of 2000. They are clearly intended to stimulate new housing construction and upgrade the stock. They are not available for the purchase of an existing dwelling which is more than 25 years old (20 years for non-fire-proof wooden housing).

More Re-Building in Urban Areas

Re-builds account for an average of between 27% and 41% of total new ownership housing in Japan – depending on the area.

Incidence of Re-Built New Ownership Housing Japan, 1998



Source: Ministry of Construction

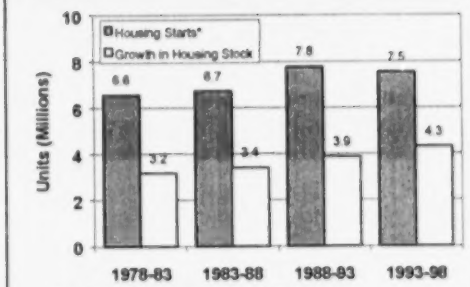
In the densely-populated Tokyo Metropolitan Area, re-builds accounted for 41% of housing starts in 1998. About one-third of the new ownership housing were re-builds in the Kinki area (centred on Osaka and Kyoto) and the Tokai area. In other parts of Japan, re-builds accounted for 27% of the total.

Because of Re-Built Housing, Growth in Housing Stock Much Less Than Starts

Because of the large numbers of demolitions and re-built housing, the actual annual increases in the housing stock are well below the numbers of new dwellings built. Over the 1978-1998 period, the increase in the housing stock was only slightly more than half the numbers of housing starts.

During the 5-year 1993-1998 period, the housing stock (including vacant dwellings) grew by 4.3 million units. This was equivalent to 57% of the total volume of housing starts over this period (7.5 million units).

Housing Starts and Growth in Housing Stock Japan, 1978-1998



* Starts are for five years commencing in the base year
Source: Statistics Bureau, Management and Coordination Agency, and1998 estimate from Urban Housing Association

This contrasts with the situation in Canada where, typically, the increase in the dwelling stock fairly closely matches the number of new units produced, since the volume of demolitions is relatively small.

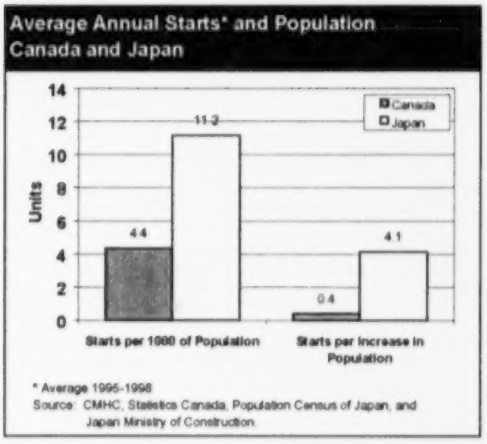
5 HOUSING CONSTRUCTION ACTIVITY

5.1 Housing Starts

High Levels of Housing Starts Compared to Japan's Population

As noted in the Introduction, average annual housing starts in Japan over the past several years were similar to those of the United States. This is despite the fact that Japan has a much lower level of both total population and annual population growth.

The relatively high level of starts in Japan can be demonstrated by comparisons of starts with *total* population and *increase* in population.



In Japan, there were an average of over 11 starts annually during the 1995-1998 period per 1,000 of total population. This is more than 2.5 times as much as Canada (4.4 starts annually per 1,000 in population).

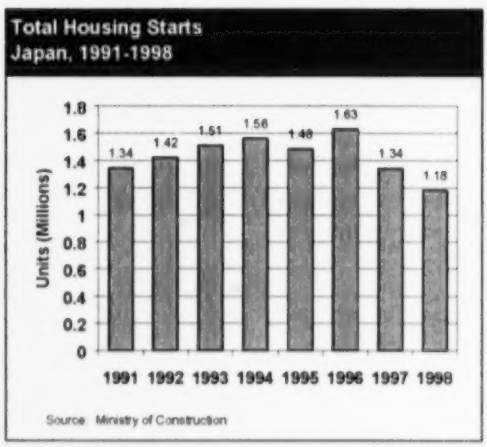
In terms of starts compared to population *growth* (1995-1998), Japan had an average of 4.1 starts for each additional person – compared to 0.4 starts per additional person in Canada.

As discussed in Chapter 4, the extremely high level of housing starts compared to population (and increases in population) is due partly to the large numbers of demolitions and re-built housing in Japan compared to other countries. The very low level of population growth in Japan is also a factor.

Decline in Starts 1996-1998

Housing starts dropped in both 1997 and 1998, in response to the weakening Japanese economy. Starts dropped to 1.18 million units in 1998 – well below the 1.42-1.63 million starts recorded annually during the 1992-1996 period.

Starts in 1998 were the lowest in Japan since the early 1980s. They also followed a weak year for housing in 1997 when starts totalled only 1.34 million units – the same level of starts as during the year following the bursting of the bubble economy in 1991. During the 1987-1990 period, Japanese housing starts averaged 1.68 million units annually.



After 1991, starts recovered to a peak of 1.63 million units in 1996 before the drop in 1997 and 1998. The high level of starts in 1996 can be attributed to several factors – including the recovery from the Hanshin Awaji earthquake. Another factor behind the increase in starts in 1996 and the drop in 1997 was an increase in the consumption tax from 3% to 5% in April 1997.

Prospects for Housing Starts

With the sharp drop in housing starts in 1998, the Japanese government attempted to stimulate demand through major incentives, including:

- An expansion of GHLC lending and a drop in the interest rate for GHLC loans; and
- The temporary tax measures for new home buyers.

These programs were designed to create an additional 300,000 units of housing demand. In November, 1999 the government announced a further economic stimulation program in an attempt to reduce the level of unemployment – including an additional 100,000 units of GHLC loans.

The government's attempts to stimulate housing demand are hampered by the fact that many prospective homebuyers face uncertainty about their future prospects for employment and fear making a long-term mortgage commitment. In the current economic environment, many companies are having to cut facilities and staff. Lifetime employment and incremental wage rises with age are becoming a thing of the past – lay-offs and the introduction of performance-based wage systems are more and more popular.

There are also fears that, while mortgage rates are now very low, they are likely to be higher when the mortgage is renewed – the GHLC recently increased the lending rate to 2.8% from 2.6%. In addition, with housing and land prices continuing to decline, there is a good chance that prices may actually be lower in future so there is less urgency to buy now – despite the favourable tax provisions and interest rates.

Finally, given the large proportion of new housing demand represented by re-built units, it is apparent that many prospective buyers are simply keeping their current (albeit not ideal) dwellings, awaiting a return of better times before making a long-term commitment. The reduction in the number of demolitions in the past two years is evidence that many people are choosing this alternative.

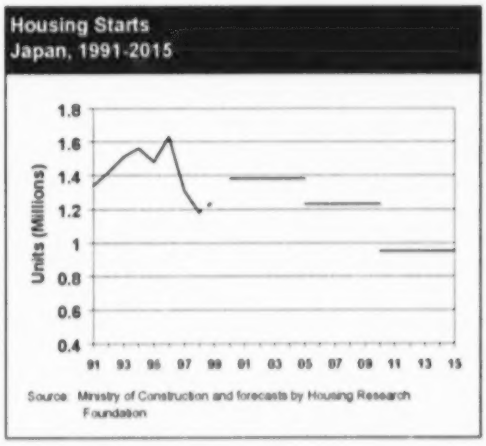
Starts Forecasts – 1999 and Beyond

Starts in 1999 are expected to reach 1.23 million units. For 2000, forecasts vary from a low of less than 1.2 million starts to a high of over 1.3 million. The actual level of starts depends on the performance of the economy and on future government initiatives to stimulate demand. There are fears that the stimulation packages may have buoyed 1999 starts at the expense of future years.

According to a report by Nikkei, the scenarios for 2000 have the following probabilities:

- Less than 1.2 million (30%) – based on lower activity following the exhaustion of the incentive programs.
- Approximately 1.2 million (60%) – based on extension of the tax reduction package.
- Over 1.3 million (10%) – based on a greater than expected improvement in the economy.

For the longer-term, average annual starts are expected to increase in the early years of the next century, followed by a decline after 2005.



According to the Housing Research Foundation, starts in the 2000-2005 period will average 1.38 million units annually. Starts are then projected to decline to an average of 1.23 million units during the 2006-2010 period and 950,000 during the 2011-2015 period. Other long-term housing forecasts indicate a similar trend in starts.

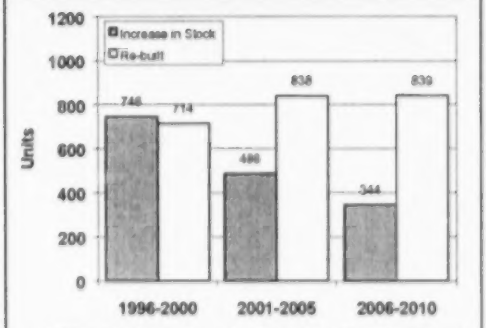
As discussed in Section 2.2, the aging Japanese population and the lower than replacement birth rate are the reasons behind the long-term projected decline in housing demand.

According to the government's current 5-year Program, starts in the 1996-2000 period were expected to average 1.46 million units annually. Given the low volume of starts in the past two years, and the continued weakness expected this year, this forecast clearly will not be met. To the end of 1999, starts will have averaged about 1.35 million units annually.

Projections Assume Significant Increase in Re-Built Starts

Behind the projected long-term decline in starts in Japan, there is an even more interesting tale: a dramatic drop in the annual increase in the housing stock. According to a projection of housing starts prepared by the Urban Housing Foundation, the number of re-built dwellings is projected to *increase* during the period to 2010, while the annual increase in the stock is expected to dwindle as the population stabilizes.

Breakdown of Annual Average Projected Starts Japan, 1996-2010



Source: Urban Housing Association, Housing Market Long-Term Forecast

In terms of total starts, these projections are somewhat lower than those of the Housing Research Foundation; however, they provide additional detail on the components of the starts forecasts. According to the Urban Housing Association projection, the starts required to accommodate demographic trends will drop from 746,000 units during the current 1996-2000 period to 486,000 during 2001-2005 and only 344,000 units during 2006-2010. Re-built housing starts, on the other hand, are projected to increase from 714,000 units annually during the current period to 838,000-839,000 units annually during the 2001-2010 period.

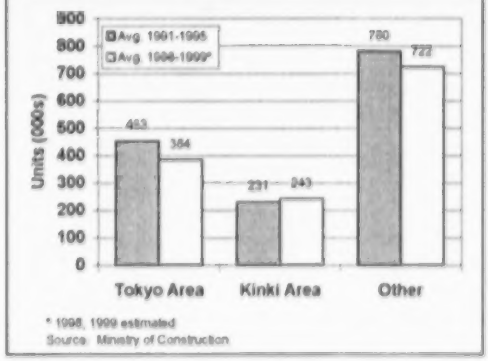
Clearly, if there is any reduction in the volume of re-built starts, the level of total starts could be well below the projections. As noted, the large proportion of re-built houses in Japan is due to the relatively short (25-30 year) life span of most houses. With the improving quality of the stock, it is possible that re-built starts will not be as significant as the projections assume.

5.2 Starts by Area and Type of Dwelling

Tokyo Area Accounts for Over One-Quarter of Japanese Starts

The Tokyo area accounted for over 30% of the average annual Japanese starts during the 1991-1995 period. It is expected to account for slightly less (28%) over the 1996-1999 period. This is roughly similar to the Tokyo area's share of the Japan's total housing stock.

Average Annual Housing Starts by Area Japan, 1991-1999



* 1998, 1999 estimated
Source: Ministry of Construction

The Kinki area (centred on Osaka and Kyoto) accounted for a further 16% of total Japanese housing starts during 1991-1995. Kinki's share has risen in recent years – it is expected to account for 18% of 1996-1999 starts.

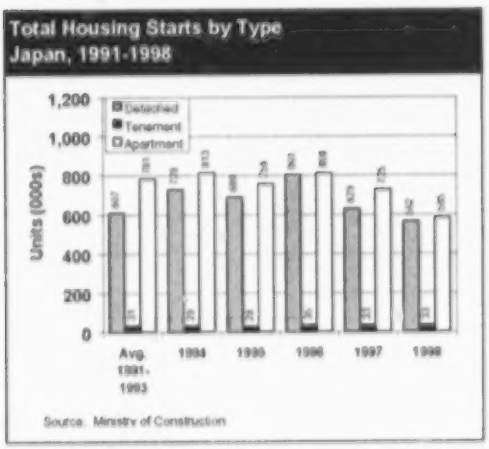
Together, the Tokyo/Osaka/Nagoya areas account for roughly half of all Japanese starts. However, despite the predominance of these centres, given the large volume of starts in Japan, activity in other smaller areas is significant as well. Starts in the northern island of Hokkaido, for example, have ranged between 47,000 and 90,000 units annually during the 1990s.

Hokkaido and the other northern regions of Tohoku and Hokuriku have a colder climate than most of the rest of Japan – more similar to parts of Canada. The use of insulated building products is greatest in these regions.

Additional detail on the regions of Japan is presented in the appendix.

Apartments Account for Over Half of Total Starts

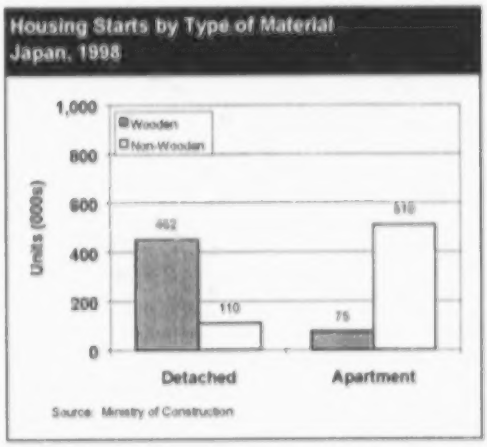
Apartments represent a far greater proportion of Japanese housing starts than in Canada. Over the period since 1991, apartments have comprised well over half the starts in Japan.



Most of the remaining starts are detached (one and two unit) dwellings, with tenements (row dwellings) comprising only a small share.

Most Detached Houses are Wood

Detached houses are predominantly made of wood, whereas most apartments are made of other types of materials – mainly concrete.



Though they account for only a small share of the total, wooden apartments are increasingly attractive to Japanese rental investors.

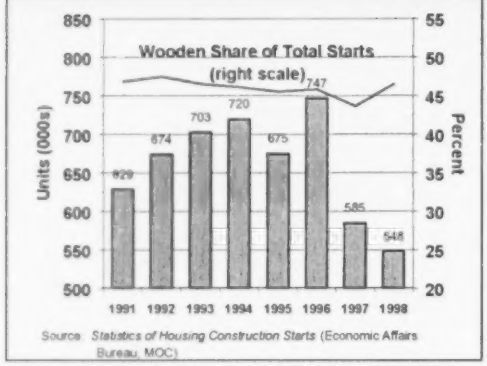
The Japanese income tax system applies accelerated depreciation to wooden buildings (24 years) compared to buildings made with other types of materials (60 years) – i.e. there are larger initial deductions from taxes with wooden buildings. Also, by utilizing North American materials and designs, the end-product typically commands a higher rent than the apartment buildings built with non-wood materials.

Wooden Housing Mostly Traditional But 2x4 Growing in Importance

Wooden housing starts (both detached and condominiums) totalled 548,000 units in 1998 – 46% of total starts. As with total starts, the numbers of wooden starts declined from the peak of 747,000 in 1996 and is below the annual

average of 680,000 units for 1991-1995. The share of total starts comprised of wooden dwellings has been relatively stable around 45%.

Wooden Housing Starts
Japan, 1991-1998



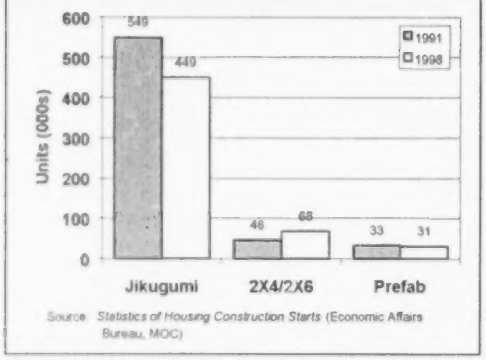
Source: *Statistics of Housing Construction Starts* (Economic Affairs Bureau, MOC)

The wooden housing sector is divided into three categories:

- Traditional Japanese wooden houses (Jikugumi);
- 2x4 houses; and
- Prefabricated houses.

Jikugumi houses (post and beam) account for the lion's share of wooden housing starts in Japan – over 80% in 1998. However, the Jikugumi share of the market has been declining during the 1990s – in 1991, for example, Jikugumi houses accounted for 87% of total wooden starts.

Wooden Housing Starts by Type
Japan, 1991 and 1998



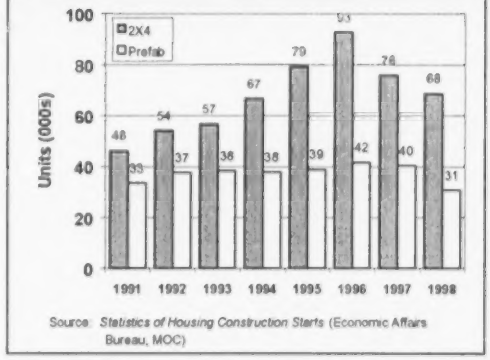
Source: *Statistics of Housing Construction Starts* (Economic Affairs Bureau, MOC)

Most of the reduction in the Jikugumi market share is due to an increase in the share for 2x4 houses – to 68,000 starts in 1998 from 46,000 in 1991. Industry observers trace the decline in Jikugumi in part to the greater marketing power of the large home builders (many of whom build with 2x4 methods) versus the smaller builders who predominantly build Jikugumi houses.

Growing recognition of the quality of 2x4 houses, their relative earthquake resistance and the fact they require less skilled labour to build are positive features for 2x4 homes.

Prefabricated wooden dwellings increased slightly in market share over the 1991-1997 period but have not kept pace with the increase in 2x4 homes. During 1992-1997, prefabricated wooden housing starts fluctuated in the 37,000-42,000 range.

2X4 and Prefab Wooden Housing Starts
Japan, 1991-1998



Source: *Statistics of Housing Construction Starts* (Economic Affairs Bureau, MOC)

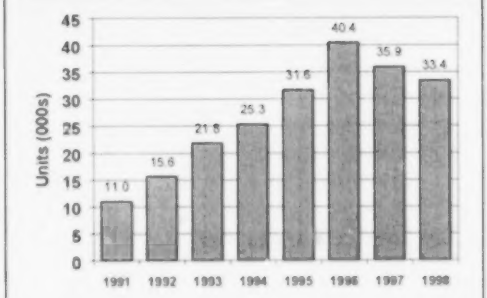
Starts of 2x4 housing dropped in 1997-1998 for the first time since 1991 – from the peak of 93,000 starts in 1996 to 76,000 in 1997 and 68,000 in 1998. Prefabricated wooden houses dropped even more – to less than the 1991 level.

The drop in 2x4 and prefab wooden starts was similar (in percentage terms) to the overall drop in housing activity. However, according to market sources, the drop in the (much larger) Jikugumi sector freed up labour and materials which resulted in a loss of competitive edge for the 2x4 and prefab builders.

Increase in 3-Storey Wooden Housing Starts

The number of 3-storey wooden housing starts has increased significantly since the early 1990s – though they too dropped in 1997 and 1998. The growing popularity of 3-storey wooden housing since the early 1990s is due mainly to changes in building codes.

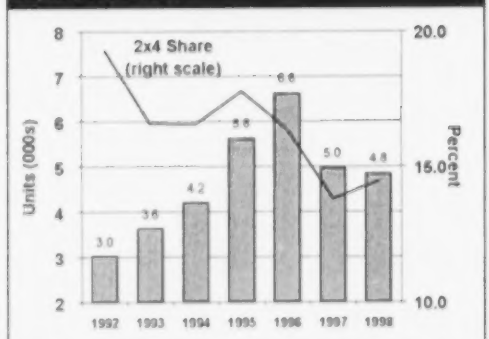
3-Storey Woodeg Housing Starts Japan, 1989-1998



Source: Ministry of Construction, Housing Bureau, Japan 2X4 Association

Most of these 3-storey wooden houses are detached; however, 2x4 construction accounts for only a relatively small share – 4,800 units in 1998 (15% of the total).

2x4 Share of 3-Storey Wooden Housing Starts Japan, 1991-1998



Source: Ministry of Construction, Housing Bureau, Japan 2X4 Association

The number of 2x4 3-storey housing starts increased progressively over the 1991-1996 period – from 2,500 to 6,600 units. With the decline in overall housing activity, the number of 2x4 3-storey starts also dropped. However, the share of total 3-storey wooden houses comprised of 2x4 units also declined – from the 16-18% range in the early/mid-1990s, to less than 15% in 1997 and 1998.

5.3 The Housing Industry

Large Builders Have Significant Market Share – But Many Small/ Medium Sized Builders As Well

The 10 largest home building companies in Japan built over 240,000 dwellings (about 18% of starts) in 1997, according to the Annual Nikkei Housing Survey – the latest year for which data has been compiled.

Sekisui House, Sekisui Chemical, Misawa Homes and Daiwa House were the four largest builders. They accounted for a total of almost 170,000 dwellings between them. These companies all specialize in prefabricated steel and panel construction.

In addition to these very large companies, there are many small/medium sized builders in Japan. There were a total of over 568,500 building construction companies registered under the Japanese Building Construction Law in 1998. Small and medium sized builders account for over 70% of building construction in Japan.

In the Jikugumi housing sector, roughly half of the industry is comprised of builders with less than 5 employees.

The 2x4 sector has a similar structure. In 1999, the Japan 2x4 Association had almost 900 members:

- 26 builders built over 500 houses;
- 50 builders built between 50 and 500 houses;
- 272 builders built between 10 and 50 houses; and
- 354 builders built less than 10 houses.

These estimates are not considered to be entirely accurate since they are based on reports from member companies – and their annual 2x4 association membership fees are based on the volume of 2x4 construction. Some larger companies may inflate their figures (for 'bragging rights') while smaller companies may try to minimize fees by understating their reported starts.

Promoting a More Professional Building Industry

MOC has introduced a number of programs to rationalize the housing industry. These focus primarily on small and medium sized builders and are supported by the Japan 2x4 Association and the Japan Housing and Wood Technology Centre.

The rationalization programs are intended to reduce housing costs through the promotion of improved construction management, supply systems and franchising.

Transparency and efficiency are the keywords of current changes in business practices. The introduction of international accounting practices in companies will require more accountability and responsibility among executives – which should lead to efficiencies and improved scheduling in the larger companies. Small builders will face increased competition from their larger rivals.

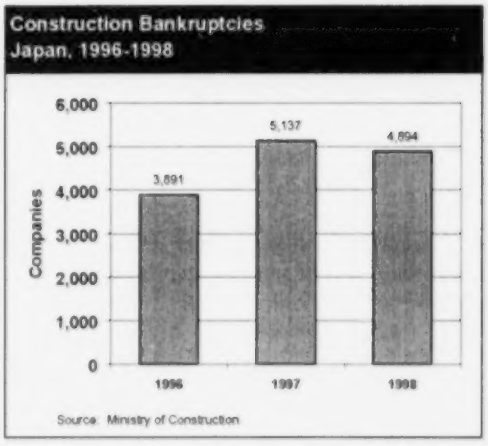
ISO 9000 accreditation is spreading among local builders. Initially, large contractors sought ISO accreditation because of MOC's intention to include it as part of the public works bidding requirements. Over 600 general contractors have ISO 9000 accreditation and local builders with joint-venture working relationships with these contractors are now seeking accreditation.

Most of the construction-related companies apply for ISO 9001 (covering the entire process from contracting, design, construction and related services) or ISO 9002 (excluding design).

Local builders can use ISO accreditation to establish their identity as a quality conscious builder with transparent and efficient work arrangements.

Difficult Times for Construction Companies

With the downturn in construction in Japan, there have been casualties among construction companies in terms of increased bankruptcies.



The number of construction company bankruptcies jumped by one-third in 1997 to over 5,100 companies. There was a slight decline in 1998 to just under 4,800 bankruptcies.

The high level of bankruptcies is, no doubt, due in part to the decline in overall construction activity – not just housing starts. Other likely factors include increased competition due to deregulation, and the 'credit crunch' for construction companies resulting from more restrictive lending practices by Japanese banks and the effects of bad mortgages (left over from the bubble economy days).

Future Shortages of Skilled Labour

Projections prepared by the Ministry of Labour point to a possible shortage of construction

workers in the future – presuming that construction activity reaches projected levels.

The number of construction workers is projected to decline from 6.6 million in 1998 to 6.2 million in 2010. Potential future shortages of construction labour are likely to have a greater impact on the Jikugumi share of the market since it depends more heavily on the quality of skilled labour. The skills required for framing labour for 2x4 construction are less than those for Jikugumi construction, so this should be positive for 2x4 construction.

To cope with shortages of skilled labour, many of the leading home builders have established their own training facilities to secure a guaranteed supply of qualified workers. Some other companies are increasing the share of factory-produced components in order to both curtail on-site costs and to control quality.

5.4 Renovations

Renovation Market Relatively Small – Expected to Expand

Renovations and remodeling, referred to as 'reform' in Japan, are a relatively new concept since, as discussed above, most housing is demolished and rebuilt after 25-30 years.

Expenditures on reform totalled an estimated ¥7.3 trillion in 1995 (over C$85 billion), according to estimates by MOC. While substantial, this is less than 10% of the estimated expenditures on new construction that year.

MOC is strongly promoting reform of the housing stock. Also, organizations have been established specifically to promote housing reform – particularly in rental and condominium complexes. They include organizations such as the Japan Reform Centre and the Mansion Reform Promotion Council.

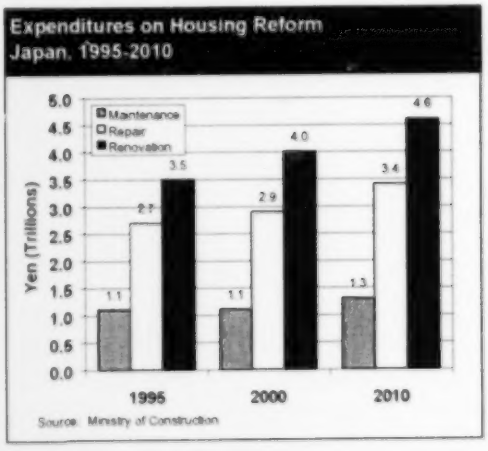
The fact that a large proportion of the public housing stock is below minimum standard is one factor behind the government's promotion of reform. It clearly is less costly to renovate these older (mainly apartment) buildings rather than to demolish and re-build.

Another factor is the improving quality of the existing housing stock in Japan, compared to earlier years. The (relatively small and poorly built) stock completed in the early post-war years has gradually been replaced by larger dwellings built with superior materials and techniques. With these more modern dwellings, regular maintenance and renovation make more sense than demolition and replacement, since they could have a much longer life cycle than much of the post-war stock.

MOC is also promoting reform as an effective way to meet objectives for greater energy efficiency, space efficiency and improvements in amenities in the existing stock.

The goals of the current (7th) 5-year housing program are more geared towards reform than has been the case in the past. In addition, the GHLC and banks now provide loans for reform on the same terms as for new housing.

The *Shin Kensetsu Sijyou no Shourai Yosoku* construction forecast provides projections of reform activity in Japan.



Slightly more than half of the total estimated ¥7.3 trillion reform market in Japan (1995) is estimated to have been for maintenance and

repairs – ¥1.1 trillion and ¥2.7 trillion, respectively. Renovations account for the remaining ¥3.5 trillion. Spending on renovations is expected to increase by 1.9% annually over the 1995-2010 period. Expenditures on repairs (1.5%) and maintenance (1.2%) are expected to grow more slowly.

Spending on renovations is projected to increase by 1.9% annually over the 1995-2010 period. Expenditures on repairs (1.5%) and maintenance (1.2%) are expected to grow more slowly.

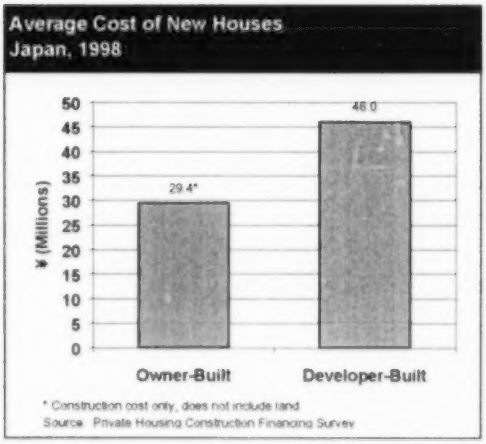
5.5 New Housing Costs

Very High Housing Costs in Japan

Japanese distinguish between owner-built and developer-built housing:

- **Owner-built** relates to cases where an owner contracts with a builder to construct a home on land already in the owner's hands.
- **Developer-built** housing relates to house-land packages available from builders.

The average price of new owner-built houses in 1998 was ¥29.4 million. As noted, this is the **construction cost only** since the owners already own the land (these are mainly re-built units).

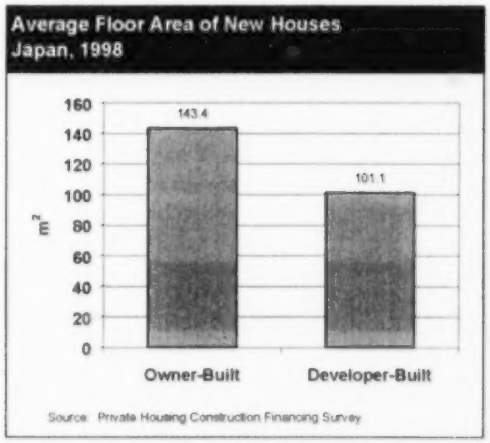


At an exchange rate of $12/¥1,000, this translates into over $350,000 (Cdn) for the construction cost only.

For developer-built housing (including land) the average cost of new houses in 1998 was ¥46.0 million (over $550,000 Cdn). Developer-built housing is typically on the urban fringes where land is available. Owner-built (re-built) housing tends generally to be more centrally-located. In addition to land costs, these prices also include development overheads such as the costs related to sales promotion.

Relatively Small House Sizes

There is a significant variation in average sizes between owner-built and developer-built houses. Owner-built houses tend to be over 40% larger (on average) than developer-built houses – 143.4 square metres versus 101.1 square metres (1,540 square feet versus 1,090 square feet).



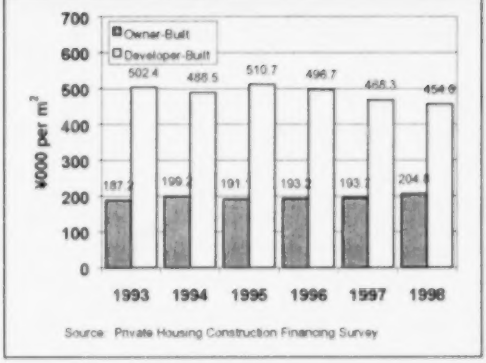
By Canadian standards, it is clear that purchasers of developer-built houses do not get very much for their average $550,000+ (Cdn) purchase.

On a per square metre basis (roughly 10.8 square feet), the cost of new houses in Japan is clearly very high. An owner-built house (no land) cost ¥204,800 per square metre ($228/square foot) in 1998.

The costs for developer-built houses are obviously higher – due to land and development overhead costs. For developer-built houses the average cost in 1997 was ¥454,800 per square metre.

The average cost of a new developer-built house per square metre has declined slightly over the period since the early 1990s (likely due to lower land prices). For owner-built houses, there had been little change in the construction cost per square metre until 1998, when the price per square metre rose by almost 6%.

Average Cost of New Houses per Square Metre Japan, 1993-1998



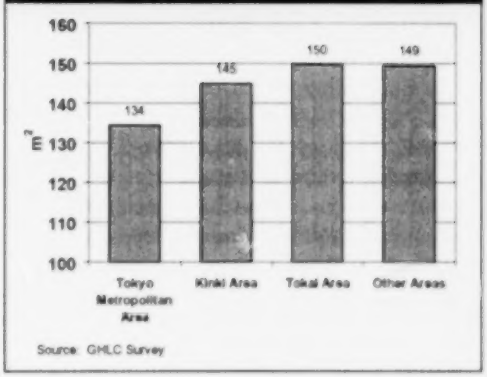
The increase in owner-built prices in 1998 may be related to the government's tax and GHLC loan initiatives – more affluent buyers (of more expensive homes) may have been encouraged to purchase a home.

Smaller House Sizes/Higher Costs in Major Centres in Japan

The average floor space of new ownership housing is much smaller in Tokyo than in other parts of Japan.

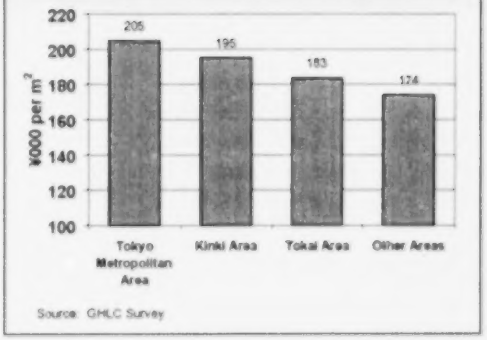
The average new ownership dwelling in Tokyo in 1998 had only 134 square metres of floor space compared to an average of 145-150 square metres in other parts of Japan. These figures cover houses which were built-to-order.

Average Floor Space of New Ownership Housing Japan, 1998



The construction cost of new ownership housing is also much higher in the major centres than in other parts of the country – ¥205,000 per square metre in the Tokyo area and ¥195,000 in the Kinki area versus ¥174,000 per square metre in other parts of Japan.

Average Construction Cost of New Ownership Housing Japan, 1998

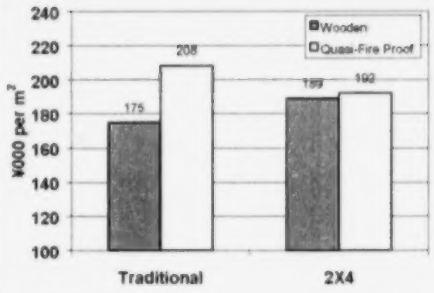


The higher costs (per square metre) in the major centres are likely due in part to the relatively smaller average sizes of houses in these centres. With many of the same facilities (e.g. kitchen and bathrooms) squeezed into a smaller floor space, the average costs per square metre for the houses in the major centres are inevitably higher.

Construction Costs Much Higher in Japan Than in Canada

The high costs of new housing in Japan appear to be mostly due to the differences in materials and labour costs – not due to the traditional Jikugumi designs used in Japan. According to surveys by the GHLC, the construction costs associated with a traditional wooden Jikugumi house are typically lower than the costs for a Japanese 2x4 house – ¥175,000 per square metre compared to ¥189,000 per square metre for a 2x4 house.

Construction Cost of Detached Houses Japan, 1997



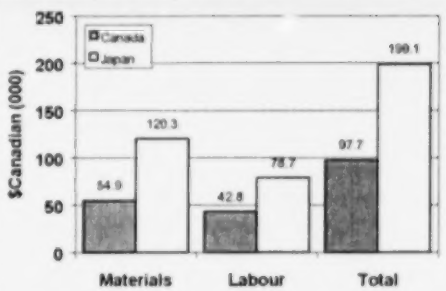
Source: GHLC Survey

For quasi-fire proofed houses, Jikugumi construction is considerably more expensive than 2x4 construction.

A spot study prepared for CMHC by the Export Council of Canadian Architecture in 1997 (*Canada/Japan 2x4 Residential Cost Comparison Study*) compared the cost of a 2x4 house in Japan with typical costs in Canada – the study showed that costs to build a house in Japan were more than double the costs for the same house in Canada.

The spot study related to a 137.3 square metre (1,475 square foot) house. The cost to build the house was $199,100 in Japan, versus $97,700 in Canada. The exchange rate used in the estimate was $12.50/¥1,000 so the comparison would be somewhat different today; however, the differences would still be significant.

2X4 Construction Cost Comparison Japan/Canada, 1997



Source: *Canada/Japan 2X4 Residential Cost Comparison Study*, Prepared by Export Council of Canadian Architecture Technical Committee for CMHC, 1997

According to the study, both labour and materials costs were much higher in Japan. Materials were almost 120% higher; Japanese labour was 84% higher. Studies of US/Japan cost differences show a similar result.

According to another study, *The Japanese Housing Market and the Rebuilding of Kobe* (a study prepared for CMHC by Scanada Consultants), the main reasons for the high construction costs in Japan include:

- The multi-tiered structure of the industry, with high profit margins at each tier;
- High costs of construction materials due to inefficient distribution practices;
- High construction labour costs;
- Strict building standards;
- Inefficient construction methods;
- Inadequacy of site supervision, and low worker productivity; and
- Consumer demand for high quality, custom-built homes.

These comments reflect the significant differences between the Japanese and North American housing industries. In particular, unlike North America where most new houses are built in subdivisions, in Japan, large tracts of land do not typically become available for redevelopment in large urban areas. As a result, the predominance of one-off re-built housing in Japan leads inevitably to higher construction costs due to custom building on cramped, built-

up sites, and relatively small orders for single houses rather than subdivisions.

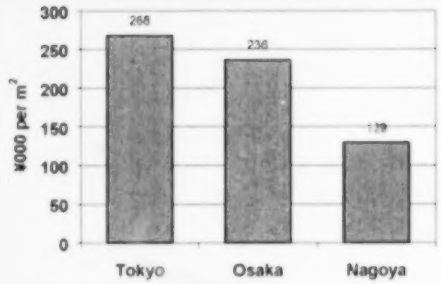
Also, builders typically charge more in Japan in order to cover the life-long maintenance costs involved in building a new house.

Land Prices Have Moderated Somewhat

Prices of residential land are notoriously high in major centres in Japan. In Tokyo, for example, residential land averaged ¥267,000 per square metre in 1998 (roughly $3,200 Cdn).

The median lot size is in the 200-250 square metre range – this is roughly equivalent to a 25x100 foot building lot. At an average value of $3,200 per square metre, these (small by Canadian standards) lots would be worth more than $600,000 (Cdn).

Average Price of Residential Land Major Centres, Japan, 1998



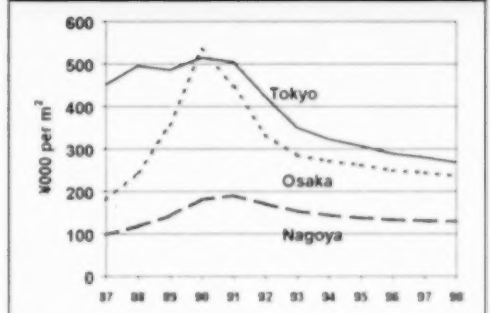
Source: Prefectural Land Prices Survey, Land Prices Research Division, Land Bureau, National Land Agency

Prices in other centres are less. Tokyo, Osaka and Nagoya are among the highest priced centres in Japan. In Nagoya, housing land prices are less than half those of Tokyo; however, at ¥129,000 per square metre, they would still cost over $300,000 (Cdn) for a typical lot.

Residential land prices have declined in all major centres in Japan since the bursting of the bubble economy during the early 1990s.

Prices in Tokyo, for example averaged roughly ¥500,000 per square metre during the 1988-1991 period. They have since declined to ¥267,000 per square metre in 1998.

Trends in Average Residential Land Prices Major Centres, Japan, 1987-1998



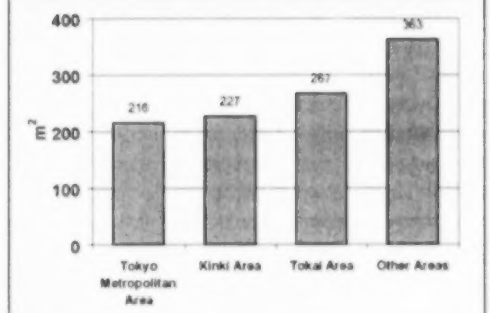
Source: Prefectural Land Prices Survey, Land Prices Research Division, Land Bureau, National Land Agency

Land prices continue to fall in all three major centres – though at a more moderate pace than during the 1990-1993 period.

Lot Sizes Much Smaller in Major Centres

The average lot sizes for new ownership housing are much smaller in the major centres than in other parts of Japan.

Average Lot Size of New Ownership Housing Japan, 1998



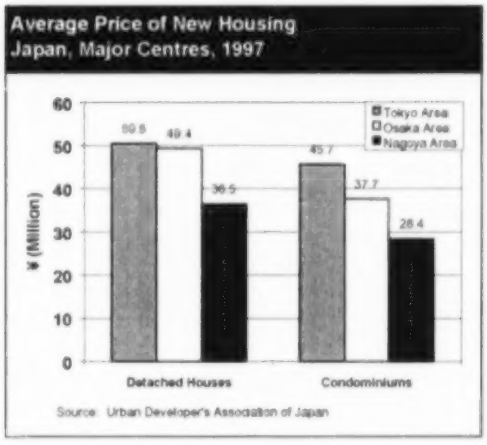
Source: GHLC Survey

In Tokyo, the average lot size for new ownership housing in 1998 was 216 square metres. It was only slightly larger in Kinki (227 square metres). In Tokai and 'other areas', the average lot size was 267 and 363 square metres, respectively.

Tokyo and Osaka – The Highest Cost Centres

Given the differences in lot sizes and land prices, it is not surprising that the average prices of new housing vary significantly from one area of Japan to the next.

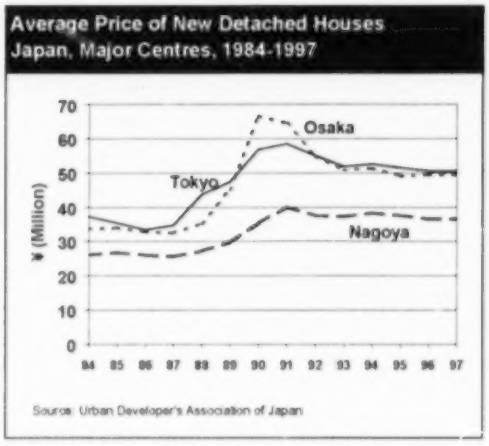
Tokyo and Osaka are clearly the most expensive locations, with average (1997) new house prices of roughly ¥50 million (roughly $600,000 Cdn). New houses in the Nagoya area, due to lower lot prices, average roughly ¥36.5 million.



New condominiums are less expensive than new detached houses; however, they still carry a hefty price tag: ¥45.6 million on average in the Tokyo area, ¥37.7 million in the Osaka area and ¥28.3 million in the Nagoya area.

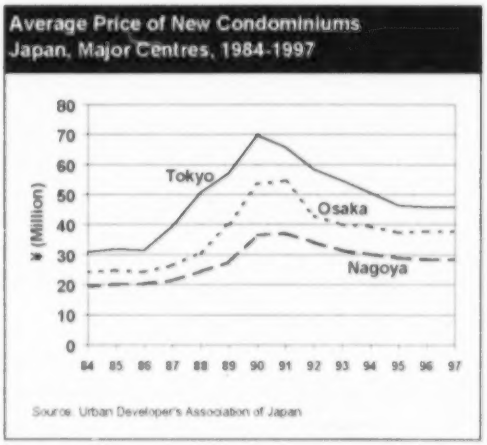
These average prices are well below those of the late 1980s and early 1990s, but they are well above the price levels of the mid-1980s.

With the bubble economy, prices of houses in the major Japanese centres escalated rapidly in the second half of the 1980s. In Osaka, average new detached house prices doubled in the 1986-1990 period. Prices also rose significantly in Tokyo and Nagoya – though not quite to the same extent.



After 1991, average prices moderated in all three major areas; however, they remain well above the levels of the mid-1980s. In both Tokyo and Osaka, average new house prices in 1997 were 50% above the levels of 1986. In Nagoya, the 1986-1997 increase in average prices was 40%. Average new house prices have been relatively stable in all three major centres since 1995.

The prices of new condominiums were even more volatile than new house prices.



In the Tokyo area, at the peak in 1990, the average price of a new condominium was ¥69.5 million – over 120% above the average for 1986. Subsequently, prices have dropped but they are still 45% above the 1986 level.

In the Osaka area, average condominium prices peaked in 1991 at 125% above their 1986 level – before settling to 55% above 1986 levels in 1997. Condominium prices also escalated and then declined in Nagoya; however, the changes were less dramatic than in Tokyo and Osaka.

As with new houses, condominium prices have been relatively steady in all three major Japanese markets for the past several years.

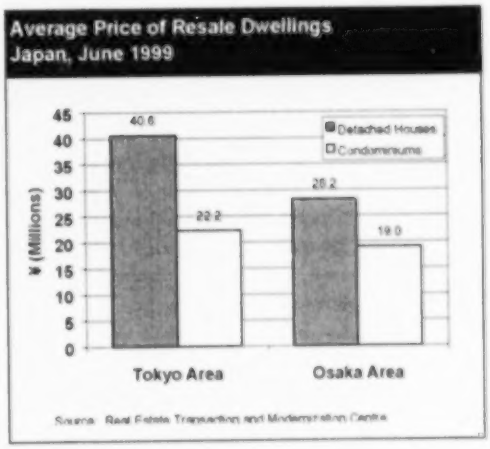
Resale Prices More Moderate – Especially for Condominiums

The resale housing market is less well developed in Japan than in North America, especially with respect to detached dwellings. Land is generally passed down through generations and redeveloped by the family as required. Also, even resale houses built relatively recently (by Canadian standards) are not considered an attractive purchase option by many Japanese.

As the quality of the recent stock has improved, the concept of durability and retained value is beginning to emerge; however, compared to North America, there is relatively little resale housing activity in Japan.

To encourage the development of a broader based housing market, the government has amended the real estate laws to increase transparency and expand the resale market. As part of this effort, in 1990, MOC established the Real Estate Transaction Modernization Centre, which has developed a national listings database and plays a key role in the dissemination of information on resale housing activity.

Based on data on houses sold through real estate agents (gathered through a survey of agents), prices for resale detached houses in the Tokyo area averaged about ¥40 million (roughly $480,000 Cdn) in mid-1999. This compares with about ¥50 million in Tokyo.



In the Osaka area, resale prices are much less – an average of ¥28 million in mid-1999. This is well below the average price of a new house which is only slightly less than in Tokyo.

Resale condominium prices are much lower. In Tokyo, the average resale condominium price in mid-1999 was about ¥22 million – roughly half the price of a new condominium. In Osaka, the average resale condominium is priced at ¥19 million – about half the price of a new unit.

5.6 Homebuyer Characteristics

Age of Home Buyers

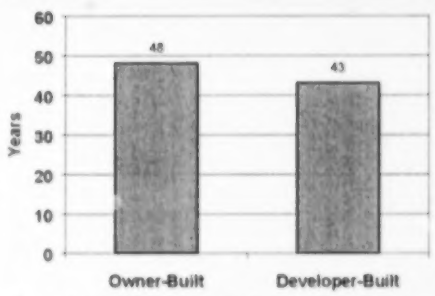
The average age of new home purchasers in Japan is 48 for owner-built homes and 43 for developer-built homes.

This corroborates to some extent the relatively low ownership rates among younger Japanese (Section 4.2). Over the past two decades, there has been a significant reduction in the ownership rate among Japanese households in the age groups less than 45.

Given the high housing costs in Japan , many buyers appear to find it difficult to purchase a

home – particularly those in the younger age groups who have lower incomes.

Average Age of New Home Purchasers
Japan, 1998



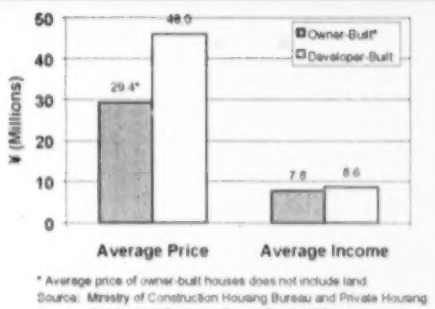
Source: Ministry of Construction Housing Bureau and Private Housing Construction Financing Survey Fiscal 1998

With the relatively undeveloped resale housing market in Japan, there is less scope for young home buyers to purchase inexpensive resale homes – the typical route for first-time buyers in Canada. Japanese purchasers typically must wait until they have accumulated a sufficient downpayment to afford a home – or until they acquire the old family home (and land).

High Prices Restrict Affordability

The average price of new developer-built houses (¥46 million) was about 5 times the average income of purchasers (¥8.6 million).

Average Prices and Average Income of New Home Purchasers
Japan, 1998



* Average price of owner-built houses does not include land
Source: Ministry of Construction Housing Bureau and Private Housing Construction Financing Survey Fiscal 1998

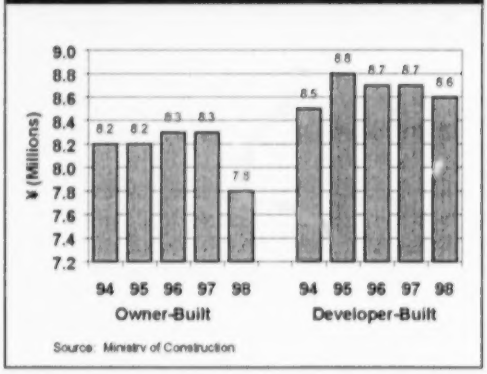
In Canadian terms, these work out to an average price for developer-built housing of roughly $550,000 and an average income of just over $100,000.

For owner-built houses, the ratio (3.8) was much less (since the land is not included in the price).

The relationship between average prices and average incomes of new home buyers is closely watched in Japan – as a measure of changes in affordability. With the rapid escalation in housing prices in the late 1980s, affordability suffered significantly.

Unlike housing prices, the average incomes of purchasers have been relatively stable in recent years. The average incomes of purchasers of developer-built housing have fluctuated in the ¥8.5-¥8.8 million range over the 1994-1998 period. In 1998, the average income was near the bottom of that range – ¥8.6 million.

Average Incomes of New Home Buyers
Japan, 1994-1998

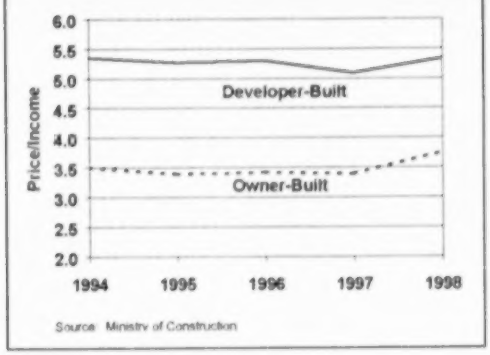


Source: Ministry of Construction

For owner-built houses, there was significant drop in the average incomes of buyers in 1998. This could be partially due to the government tax and interest rate incentives aimed at encouraging buyers to purchase homes.

The ratio of house prices to buyers' incomes has been relatively stable over the period since 1994. For developer-built housing, the price/income ratio has fluctuated in the 5.1-5.4 range. In 1998, it was at the top of that range.

Ratio of House Prices and Buyer's Income Japan, 1994-1998



Source: Ministry of Construction

For owner-built housing, the ratio was relatively stable at roughly 3.5 over the period from 1994 to 1997. In 1998, due to the drop in the average income for owner-built houses, the ratio increased to 3.75.

Another important factor with respect to changes in affordability (not reflected in this relatively crude price/income measure) is the effect of the current very low interest rates on potential buyers' ability to afford to purchase a home. Obviously, at the low mortgage interest rates that prevail in Japan, purchasers do not require nearly as high an income to afford a given dwelling as would be necessary if mortgage rates were nearer Canadian levels.

Most Housing Financing is Through GHLC

The primary source of borrowing for new homes in Japan is the GHLC. An average of 45.2% of the total price of new developer-built housing and 41.8% of the total cost of new owner-built housing is financed through public sources – mainly GHLC.

Most of the rest of the purchase price of the average new house (both developer-built and owner-built) is through personal sources – e.g. savings and the sale of real estate.

Private financing comprises only a relatively small share of the total housing finance package for typical Japanese buyers – an average of 7-11% of the price of a new house.

Source of Financing for New Home Purchases Japan, 1998

	Owner-Built	Developer-Built
Savings	29.6	24.1
Sell real estate	7.4	13.9
Other personal funds	4.3	3.4
Public financial sector	41.8	45.2
Bank financing	10.7	6.5
Other	6.2	7.0
Total	100.0	100.0

Source: Ministry of Construction Housing Bureau and Private Housing Construction Financing Survey Fiscal 1998

Normally, because of the beneficial long-term interest rates, borrowers utilize GHLC funding to the greatest extent possible and access additional private borrowing only if total borrowing needs exceed the GHLC maximum loan limits.

The GHLC has a guideline policy whereby financing costs should not exceed 20% of income for most borrowers.

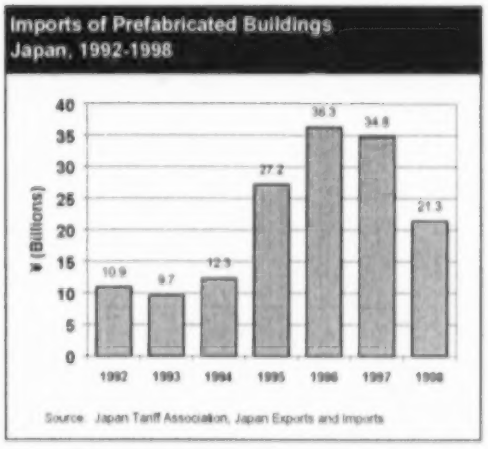
6.1 Imports of Prefabricated Housing

Recent Declines in Imports of Prefabricated Housing to Japan

As noted in Chapter 2, due partly to the extremely high price/cost of housing in Japan, the government has actively promoted imports of new housing and building products from other countries – particularly imports from the US, Canada and the Scandinavian countries.

New initiatives have included deregulation and changes in building codes to accommodate foreign housing, as well as government promotion of imported housing and building products. In the mid-1990s, these efforts were successful in encouraging increased imports. In recent years, however, there has been a decline in housing imports.

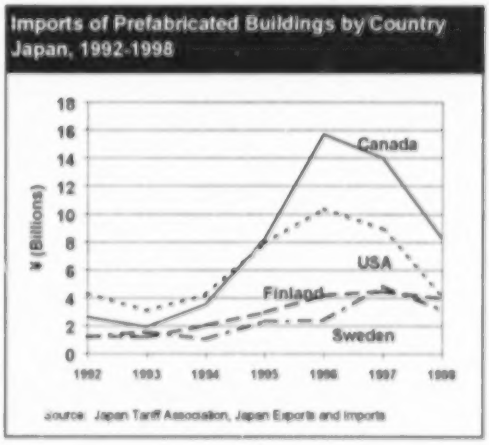
According to the Japan Tariff Association, imports of prefabricated buildings rose from ¥10.9 billion in 1992 to a peak of ¥36.3 billion in 1996, before falling to ¥21.3 billion in 1998. This translates into roughly $250 million Cdn in prefabricated building imports in 1998.



The 40% decline in imports of prefabricated buildings over the period since 1996 is greater than the decline in housing starts in this period (28%); however, prefabricated housing clearly accounts for a larger share of activity now than during the early 1990s.

Canada – the Leading Exporter of Prefabricated Buildings to Japan

Canada is the leading exporter of prefabricated buildings to Japan. In 1998, imports from Canada totalled ¥8.3 billion – almost 40% of the total imports of prefabricated buildings.



The US was the second largest importer of prefabricated buildings – with ¥4.2 billion in imports in 1998. Finland was third with ¥3.9 billion, while Sweden had ¥3.1 billion in prefabricated building imports. All other countries combined had ¥1.8 billion in imports.

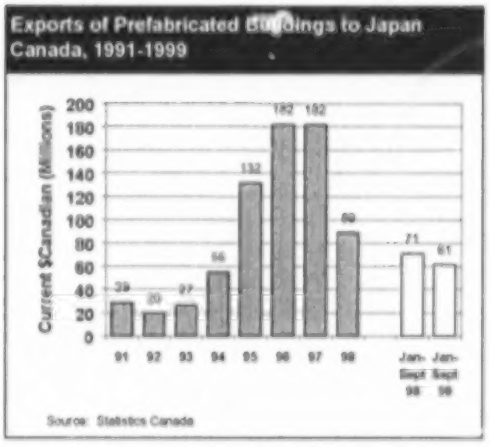
Canada has been the leading exporter of prefabricated buildings to Japan for most of the period since 1992. Imports from Canada dropped significantly over the 1996-1998 period, as did imports from the US. Imports from Sweden and Finland have not been as substantial through this period – and have not dropped as much as Canada and the US.

Further Declines in Canadian Exports of Prefabricated Buildings in 1999

Canadian exports of prefabricated buildings to Japan are the mirror of Japanese imports from Canada. The numbers are not exactly the same because of differing exchange rates and time periods – they are provided here for comparison purposes.

As indicated by the Japanese import data, Canadian exports of prefabricated buildings to Japan dropped significantly in 1998, and have fallen further in the first nine months of 1999.

Exports of prefabricated buildings from Canada to Japan totalled only $89 million during 1998 – a drop of more than half from the $182 million in exports in both 1996 and 1997.



In contrast to the decline in exports to the Japanese market, exports of Canadian prefabricated buildings to other countries (mainly the US) increased from $188 million in 1996 to $210 million in 1997 and $287 million in 1998.

There was an *increase* in Canadian exports of prefabricated buildings to other countries in the first nine months of 1999 – from $203 million in January-September 1998 to $258 million in the same period this year.

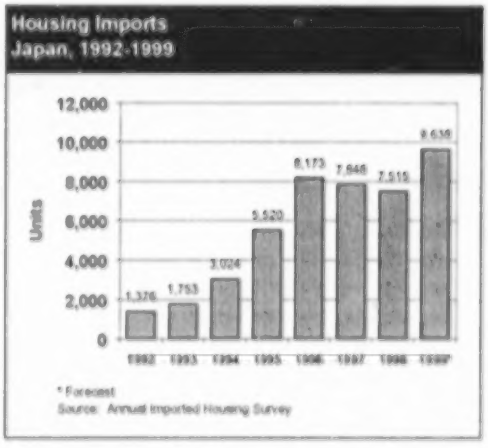
6.2 Imported Housing Survey

The information from the Japan Tariff Association (presented in Section 6.1) measures actual imports of prefabricated buildings – a relatively narrow definition of 'imported housing'.

The Annual Imported Housing Survey conducted by MOC, MITI, JETRO and the Japanese 2x4 Association has a broader definition . For this survey, 'imported housing' includes houses in which more than 50% of the materials are imported and the design of the house is based on the lifestyle of the exporting country.

The survey results are based on the replies from 312 companies which import housing. Since the number of companies responding to the survey is limited, readers should exercise caution in interpreting the results.

The survey has tracked housing imports from less than 1,500 units in the early 1990s to over 8,000 units in 1996. Imports dropped modestly in 1997 and 1998 to 7,800 and 7,500, respectively.



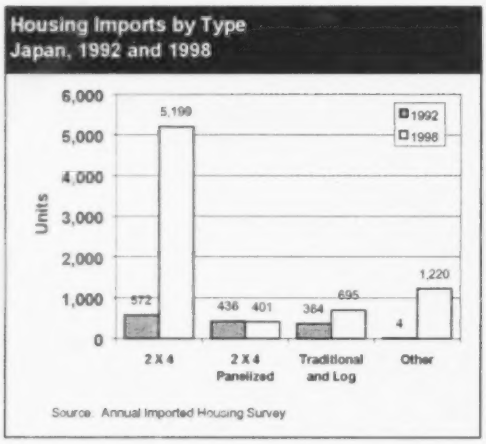
Respondents to the survey indicate that they expect to increase imports of housing in 1999 to over 9,600 units. However, again some caution should be exercised in interpreting this since, in the previous year's survey, they forecast imports

of over 9,300 houses in 1998 – 1,800 units more than actually were imported that year.

While the increase in housing imports since the early 1990s is substantial, it must be viewed within the context of the 1.2-1.6 million dwellings started annually in Japan – imported housing represented less than 1% of total starts in 1998.

2x4 Houses Dominate Imports

In 1998, according to the survey, imports of 2x4 and panelized 2x4 houses are estimated to have totalled 5,600 units – three-quarters of total housing imports.



2x4 houses have accounted for most of the growth in housing imports since the early 1990s. In 1992, imports of 2x4 houses totalled only 572 units. Since then, 2x4 imports have grown in each successive year (including 1996-1997) to reach 5,152 units in 1997 and 5,199 units in 1998.

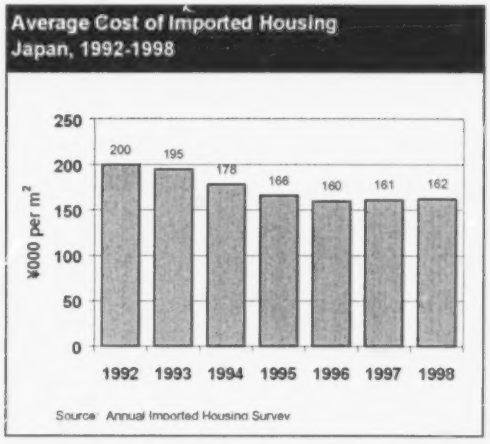
Panelized 2x4 imports rose rapidly in 1995-1996 (reaching 2,030 units in 1996) before dropping to 885 units in 1997 and 401 units in 1998.

Imports of traditional and log houses account for only a relatively small share of the market – 695 units in 1998.

'Other' types of imported houses have increased from virtually zero in the early 1990s to 1,220 units in 1998. Details relating to these houses are not available but they appear mainly to be of light gauge steel construction.

Reduced Costs for Imported Housing

The average costs of imported housing have dropped significantly since the early 1990s. In 1992, the average price of imported housing was ¥200,000 per square metre. By the mid-1990s, the average price had dropped to less than ¥170,000 per square metre.



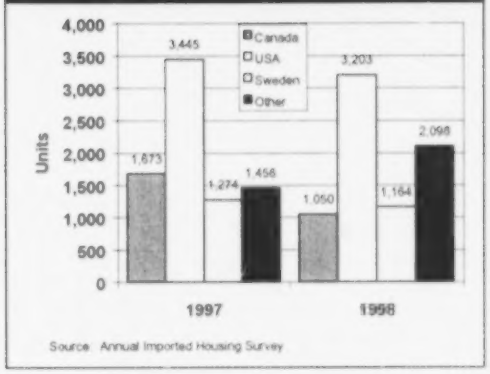
In 1998, the average cost of imported housing was ¥162,000 per square metre (roughly $180 Cdn per square foot).

The US – The Leading Exporter of Housing to Japan

Using the broad definition of 'imported housing', the US exported more housing to Japan than any other country in both 1997 and 1998. In both years, the US accounted for roughly 43% of total imported housing

Canada has slipped from being the second largest importer of prefabricated housing in 1997 to third – with almost 1,700 units in 1997, falling to 1,050 units in 1998.

Housing Imports by Country
Japan, 1997-1998



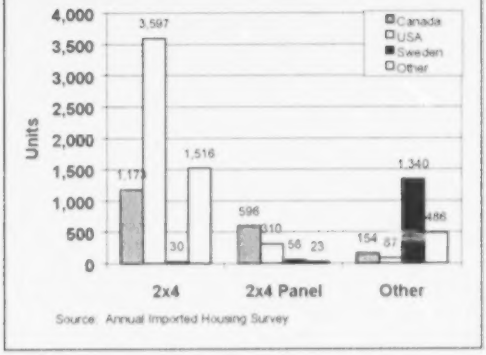
Source: Annual Imported Housing Survey

Sweden became the second largest importer of housing in 1998 – 1,164 units.

'Other' includes both other countries and imported housing where the countries were not identified.

Canada is the largest importer of panelized 2x4 houses – accounting for 60% of the imports in 1998. The next largest importer was the US, with 30% of the import market.

Imports of Prefabricated Houses by Type and Country, Japan, 1998



Source: Annual Imported Housing Survey

The US is by far the largest importer of (non-panelized) 2x4 prefabricated houses. With almost 3,600 units, the US accounts for 57% of these imports. Canada had slightly less than 20% of this market in 1998.

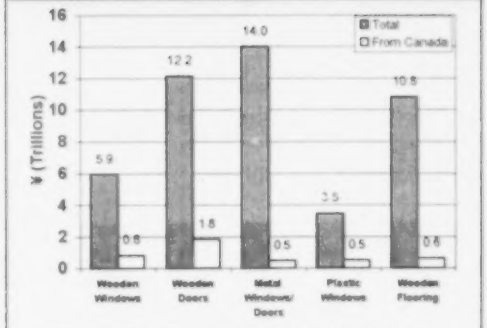
6.3 Building Product Imports

Many Other Housing-Related Products Imported Into Japan

There are a wide range of housing-related products being imported into Japan.

For most of these other products, Canada's share of the Japanese import market is relatively small. In the wooden window and door market, for example, imports from the US were ¥3.4 billion and ¥4.2 billion, respectively in 1998 – well above the Canadian figures of ¥0.8 billion and ¥1.8 billion. Canada's share of total Japanese imports in these two products was 14% and 15%, respectively.

Imports of Selected Building Products
Japan, 1998



Source: Japan Tariff Association, *Japan Exports and Imports 1998*

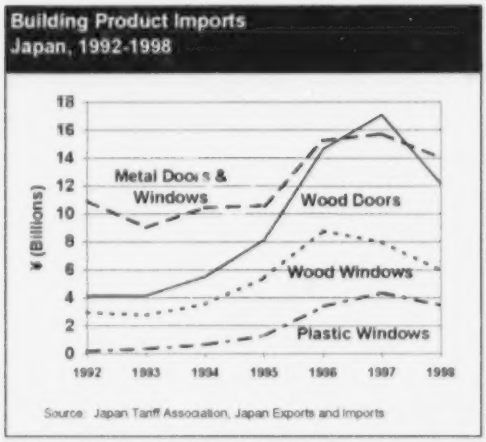
Similarly, in the metal (mainly aluminum) window and door market, the US share is ¥2 billion, while Canada's is ¥0.5 billion. The market leader in this case is Thailand, with ¥10.2 billion.

Canada's market share is also relatively small in plastic windows and wooden flooring. The US is the dominant exporter (¥2.2 billion) in the case of plastic windows.

Several countries have larger shares of the Japanese wooden floor market than Canada – including the Philippines, New Zealand and the US.

Decline in Imports in 1998 – Still Much Higher Than in Early 1990s

Imports of building products increased progressively over the period from the early 1990s to 1997. In 1998, with the downturn in construction activity (and the lower value of the yen), imports of building products declined significantly.



For some products, there was a substantial increase in imports between the early 1990s and 1997. For example, imports of wood doors grew from ¥4.2 billion in 1992-1993 to over ¥17 billion in 1997, before dropping to ¥12.2 billion in 1998. Canada's share of the wood door market has increased steadily from ¥100 million in 1992 to ¥1.8 billion in both 1997 and 1998.

Overall imports of wood windows also increased substantially during the period to 1997 and then declined. From ¥3.0 billion in 1992, wood window imports rose to ¥8.0 billion in 1997, before dropping to ¥5.9 billion in 1998. Canada's share of the market rose from ¥100 million in 1992 to ¥1.2 billion in 1997 before falling to ¥820 million in 1998.

In metal windows and doors, Canada has a relatively small share of the market – only ¥475 million in 1998 (down from ¥760 million in 1997). Overall imports of metal windows and doors have held up relatively well – they totalled ¥14 billion in 1998, down somewhat from the ¥15.7 billion in 1997. Imports of metal windows and doors were in the ¥10 billion range in the early 1990s.

Imports of plastic doors and windows have also held up relatively well – they totalled ¥3..5 billion in 1998, down from ¥4.4 billion in 1997. Imports have risen significantly since the early 1990s when they were in the ¥200 million range. Canada's share of plastic window and door imports has averaged in the ¥515-¥550 million range for the past three years.

Source of Materials Used in Imported Housing

The Imported Housing Survey provides insights into the sources of materials used by the importers. The following summarizes the share of importing companies which source various building materials from the US and Canada. The survey covers companies involved in importing housing to Japan.

The housing importers source much of their material in either Canada or the US; however, for many materials, they predominantly use other (mainly local) suppliers. For example, importers source most of the following materials locally: roofing, gypsum board, toilet and bathroom fixtures, heating/air conditioning, and lighting fixtures.

Sourcing of Building Materials[9]
(% of Companies Importing Materials from Canada and the U.S.)

	Canada	U.S.
Framing Materials	48	33
Structural Plywood	48	28
Roofing Materials	6	6
Wooden Windows	20	47
Aluminum Windows	13	20
PVC Windows	21	30
Exterior Finishes	11	21
Interior Doors	29	55
Interior Finishes	25	50
Staircases	24	46
Flooring	24	49
Gypsum Board	8	6
Kitchen Cabinets	26	36
Toilet Fixtures	3	12
Bathroom Fixtures	3	7
Wash Basins	16	32
Heating/Airconditioning Units	2	4
Lighting Fixtures	5	14

In some cases, such as roofing materials, gypsum board and exterior finishes, several respondents indicated that imports do not met Japanese codes and standards. Difficulties with maintenance and after-sales service presented problems for importers for some products (e.g. toilet and bathroom fixtures, heating/air conditioning units and lighting fixtures).

Building materials which imported housing buyers tend mainly to source from Canada and the US include: framing materials, structural plywood, wooden windows, interior doors and finishes, staircases, flooring and kitchen cabinets.

Other materials which a high proportion of importers source from Canada and the US include: aluminum and plastic windows, exterior finishes and wash basins.

For most building materials, the US is a preferred source compared to Canada. Only in framing materials and structural plywood does the proportion of importers sourcing materials in Canada exceed that of the US. For most of the other building materials, the US share is double or more than Canada's share.

Distribution Channels

The Japanese building material market is very competitive. Naturally, builders compare imported materials with the products available domestically. Purchase decisions are made not just on the quality and performance of the material – availability of supply, quality of service, and financing terms are also important considerations.

Domestic manufacturers retain their own distribution system that enables virtually real-time delivery to builders ordering very small lots of materials. Also, they typically accept promissory notes with payment sometimes extended up to 120 days. These are very important considerations for builders who often are purchasing small quantities of building materials for one-off houses in built-up areas. Also, the payment terms from suppliers are important since builders may not receive payment from the owner until the GHLC loan is advanced near the end of the construction period.

In order to meet builder demand, importers have adopted several different approaches. One is the franchise system – this enables the local franchisee to purchase the materials in quantity and act as the distribution channel. Participating builders receive quality-controlled products with sales tools provided by the franchisee.

Local assembly companies are another channel for some products. These involve local operations which use knock-down parts imported from overseas manufacturers. For example, PVC windows are now produced domestically in small factories using parts imported from overseas, but with guaranteed on-time delivery and controlled quality.

Another approach is the establishment of buying groups. These are typically organized in different regions – often by the local lumber company or trade house. Participating builders place orders at the company, which assumes the risks in terms of non-payment or order cancellation.

7 POTENTIAL MARKET NICHES

Part of the purpose of the on-going work of CHEC is to assist Canadian companies in identifying potential market niches for their products. Based on the work undertaken in preparing this report, a preliminary assessment has identified some promising potential market niches which appear to offer opportunities for increased penetration of Canadian housing in Japan.

Large-scale wooden buildings – regulatory changes have facilitated the use of wood in 3-storey and even 4-storey buildings. Canadian designs and materials are suited to these types of buildings, however, the competition from traditional wood designs and reinforced concrete is severe. Also, there are potential difficulties with obtaining the necessary structural engineering designs for the building application. There appear to be opportunities for Canadian designs not only in houses and multi-residential buildings, but also in other types of uses such as schools, temples and elderly-care facilities.

Building materials in non-wooden buildings – in the densely populated areas of many Japanese cities, most residential areas are zoned as quasi-fire protection areas. The building materials used for exterior finishes in these areas must have the appropriate fire-rating certification. Most imported windows, doors and exterior siding have not obtained the necessary ratings because of the lengthy and costly procedures involved. With deregulation, these procedures are being simplified so it will become less complex for foreign companies to access this market.

Seniors housing – the Japanese are very concerned about the continued ability of their elderly population to maintain independent lives and, when they become incapacitated, to obtain the care they require. The strong growth in the elderly population for the foreseeable future guarantees that this will be a significant and expanding market well into the next century.

Renovations – while not traditionally a major part of the Japanese housing market, renovation spending is growing in Japan and is expected to continue to grow in future. With an increasing share of new housing being built for a planned life-span much longer than those of traditional Japanese houses, it is likely that renovations will become more prevalent than they have been in the past.

Energy efficiency and healthy housing – the introduction of new building regulations, which promote more energy-efficient and healthy housing designs, provide increased opportunities for companies with expertise in these areas. Builders specializing in traditional Japanese houses are not generally familiar with these concepts.

With the substantial changes underway in Japan, in particular deregulation and the removal of regulatory obstacles for imported housing and building products, the Japanese housing market will be more open to companies seeking to export products and services.

Future research by CHEC will expand on the information presented in this report and explore more fully the potential market niches in Japan and the opportunities for Canadian housing companies in this vast market. In particular, CHEC will be commissioning research into the regional housing markets in Japan. The first of these reports, on Kyushu, will be available shortly.

Appendices:

Overview of Regions in Japan

Structure of Housing Statistics in Japan

Overview of Regions in Japan

This appendix provides a brief overview of the regions in Japan. This is only an introduction to the regions – more extensive analysis of housing trends and import prospects by region will be the subject of special regional analyses which will be forthcoming from CHEC in the coming months. The first of these regional analyses (on Kyushu) will be available shortly.

The Regions of Japan

According to the MOC's definitions, Japan is comprised of 10 regions spread over the four main islands of Honshu (itself comprised of 6 regions), Hokkaido, Kyushu and Shikoku, plus the islands of Okinawa. Regions are comprised of one or more prefectures.

Economically, the dominant region is Kanto which includes 9 prefectures (including Tokyo) and accounts for 38% of total Japanese GDP. Kinki (including Osaka) is the next largest region, with almost 17% of GDP. Chubu (including Nagoya) and Hokuriku combined account for almost 17% of total GDP. Together, these four regions in the heart of Honshu, therefore, comprise over 70% of Japan's GDP. The other regions are much smaller in terms of population and the economy but account for much of the land mass.

Briefly, from northeast to southwest, the 10 regions are as follows:

Hokkaido is the northernmost island, with a climate and topography similar to Canada's. The region had a population of 5.7 million in 1998. The major city in Hokkaido is Sapporo, with a population of 1.8 million.

Tohoku comprises the northern part of the main island of Honshu. It is one of the poorest, least-developed and populated regions – comprising almost 20% of the land mass but only 8% of the population. The major city in Tohoku is Sendai, with a population of 1 million.

Kanto, which contains Tokyo, is a relatively small region geographically (less than 10% of the Japanese land mass) but accounts for 38% of Japan's GDP. The population of Kanto was 43 million in 1998 – Tokyo's population alone was 8 million. A Canadian representative office is located in Tokyo.

Hokuriku is a relatively small region with a population of 5.6 million in 1998. The main cities of the region are located on the northern coast of Honshu, surrounded by mountains. Kanazawa (population 455,000) is the main business centre.

Chubu, located between Tokyo and Osaka, is the third most populated area in Japan, with 14.7 million in 1998. Nagoya (population 2.2 million) is the business centre of the region. It is located 2 hours from Tokyo by bullet train and contains a Canadian representative office.

Kinki, the second largest region, is considered to be the most business-oriented region. It has a population of 20.7 million. Osaka, (8.8 million) is the second largest city in Japan and is located 3 hours from Tokyo by bullet train. Other major centres include Kyoto, Kobe and Nara. A Canadian representative office is located in Osaka.

Chugoku occupies the western tip of Honshu. It is divided by an east/west mountain range – most of the industry is located in the south, where Hiroshima (population 1.1 million) is the major centre. The total population of Chugoku was 7.7 million in 1998.

Shikoku is the smallest of the four main islands – both in population (4.1 million in 1998) and land mass (only 5% of the Japanese total). The major city is Takamatsu (334,000).

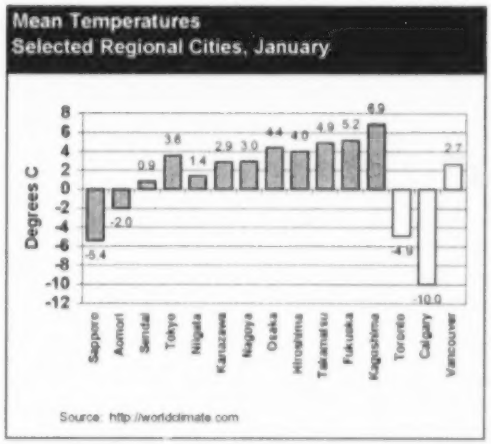
Kyushu is the southernmost of the main islands and is comprised of slightly more than 10% of Japan's land mass. The population was 20.7 million in 1998 (16% of Japan's total). The main business centre is Fukuoka (1.3 million). A Canadian representative office is located in Fukuoka.

Okinawa is comprised of a string of 160 islands in the subtropics – halfway between Kyushu and Taiwan. Total population is 1.3 million – with 302,000 located in Naha.

Variable Climates

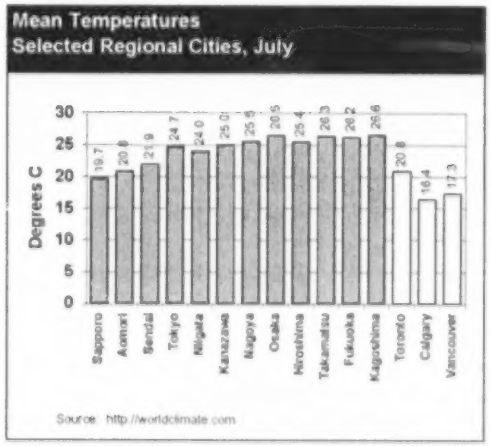
The main Japanese land mass covers latitudes stretching (in North American terms) from as far north as Ottawa to as far south as Houston.

As such, it is understandable that there is a considerable variation in the climates of the various regions. The northern city of Sapporo in Hokkaido, for example, has a mean January temperature less than zero Celsius (-5.4° C), slightly lower than Toronto (-4.9°), and well below Calgary (-10°).

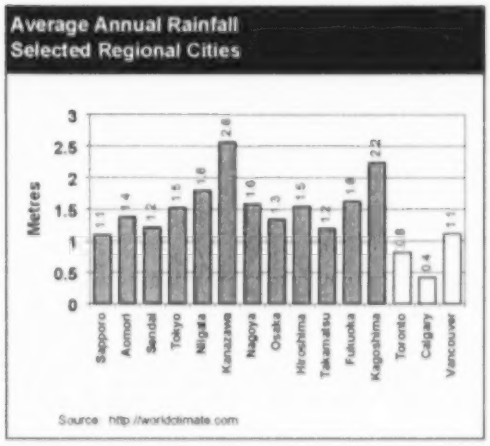


In contrast, Kagoshima, in Kyushu, has a mean January temperature of 6.9° C, which is well above that of Vancouver (2.7°). Most of the major centres in Japan have mean winter temperatures which are higher than Vancouver.

Summer temperatures in Japan are also generally higher than in most of Canada. For all of the major centres presented here except for Sapporo (19.7°), the mean temperature in July is higher than 20°. Mean July temperatures rise to above 26° in a number of centres, including Osaka, Takamatsu, Fukuoka and Kagoshima.



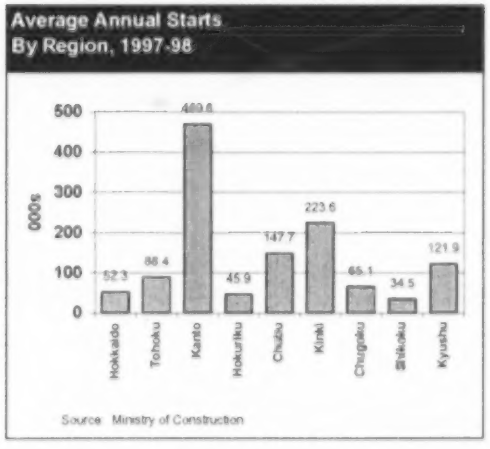
Annual precipitation in most areas in Japan is also considerably higher than in Canada.



Average annual rainfall averages 2.6 metres in Kanazawa and 2.2 metres in Kagoshima. This is more than double the average annual rainfall in Vancouver (1.1 metres).

Kanto Region Dominates Starts

Starts in the Kanto region (which includes Tokyo) averaged 470,000 units annually over the 1997-1998 period – 37% of total starts in Japan in this period.



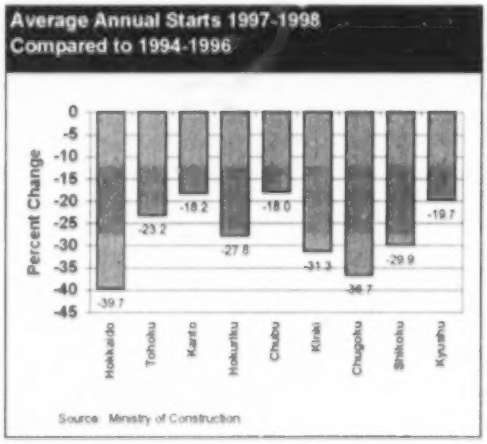
Kinki (which includes Osaka) had the next highest starts, with an average of 224,000 starts in 1997-1998 – 18% of the national total. With Chubu (an average of 148,000 starts during these two years), these three regions in the heartland of Japan accounted for about two-thirds of total starts in Japan in this period.

The remaining one-third (almost 420,000 starts annually) was spread across the remaining seven regions. This is a considerable total – roughly three times recent annual starts in Canada.

The northern regions of Tohoku (88,000 starts) and Hokkaido (52,000 starts) together had annual 1997/1998 housing production which were similar to starts in Canada in this period.

After the three largest regions, Kyushu, Japan's southernmost region had the largest annual production of housing over the 1997-1998 period – an average of 122,000 starts.

All regions shared in the national decline in housing starts over the period since the mid-1990s. For Japan as a whole, average annual starts in 1997-1998 dropped by 20% from the average of the 1994-1996 period.

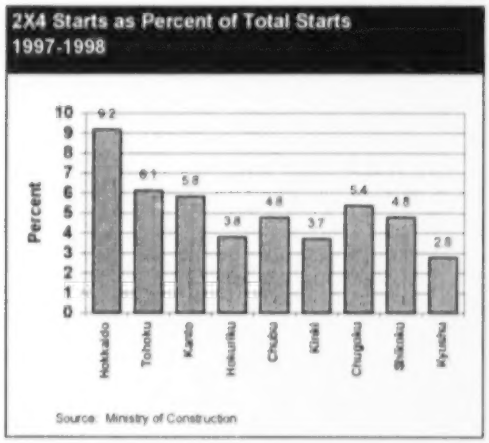


The drop in housing activity in Chubu (-18%), Kanto (-18.2%) and Kyushu (-19.7) was slightly smaller than the national average.

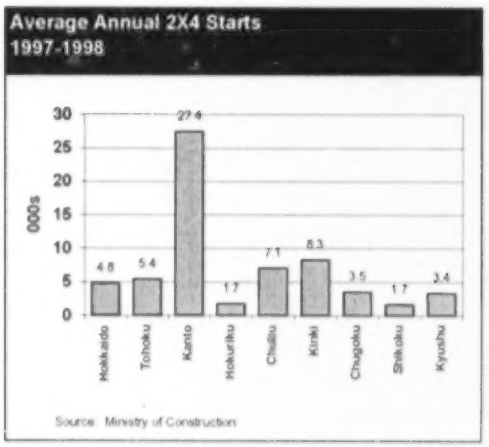
On the other extreme, Hokkaido (-39.7%) and Chugoku (-36.7%) suffered the greatest declines in housing activity over this period.

2x4 Share of Starts Highest in Hokkaido and Tohoku

The northern regions of Hokkaido and Tohoku have the highest incidence of 2x4 starts among the regions. 2x4 starts are particularly popular in Hokkaido, where they accounted for 9.2% of total starts over the 1997-1998 period. Tohoku had the next highest share of 2x4 starts (6.1%) during this period.



In most other regions, 2x4 starts accounted for between 3.7% and 5.8% of total starts over the 1997-1998 period. Kyushu, with a 2x4 market share of only 2.8% of total starts, had the lowest incidence of 2x4 construction in Japan.



While Hokkaido and Tohoku have the highest incidence of 2x4 starts, in terms of actual volumes of 2x4 houses built, the large regions of Kanto, Kinki and Chubu, dominate.

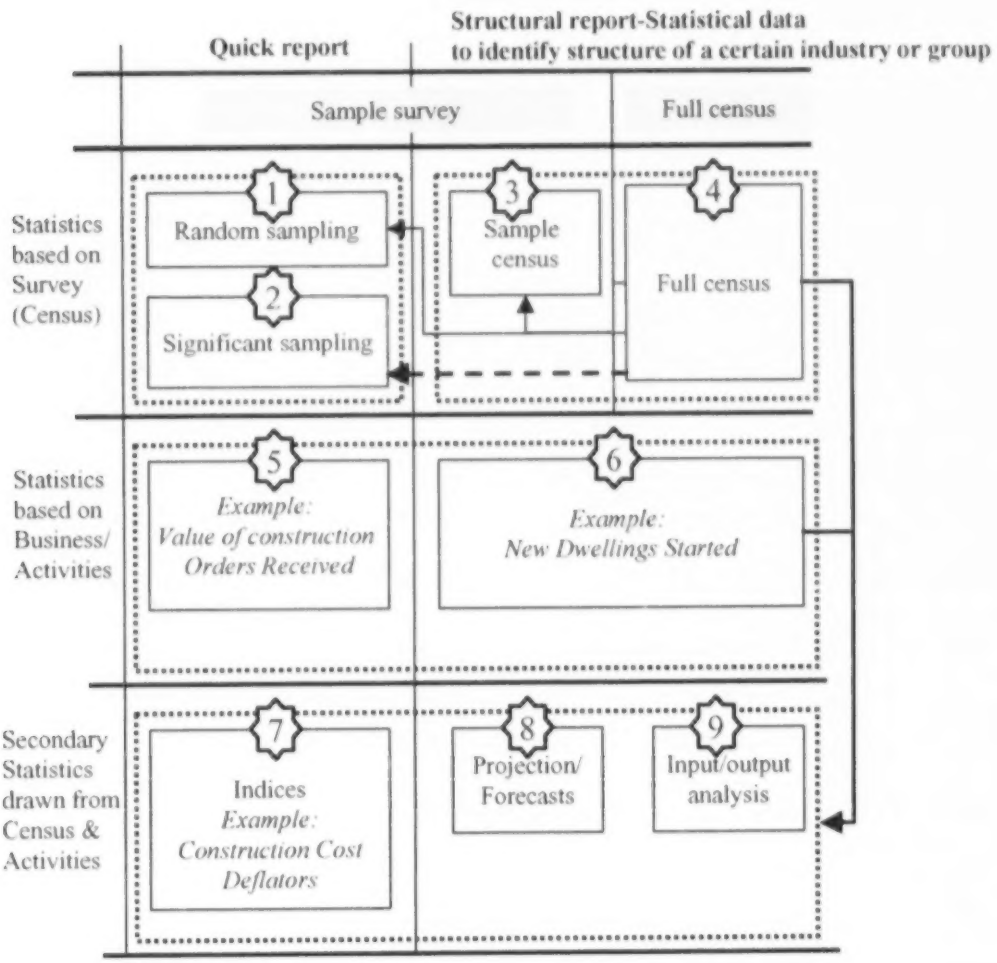
Kanto alone, with an average of 27,400 2x4 starts in 1997-1998 accounted for over 40% of total Japanese 2x4 housing starts. Kinki (13%) and Chubu (11%) had the second and third largest shares of total 2x4 starts. Together, these three regions had over two-thirds of Japanese 2x4 starts in this period.

The two northern regions of Hokkaido (4,800 units) and Tohoku (5,400 units) had the next highest volume of 2x4 starts among the Japanese regions. Together, they accounted for 16% of the country's 2x4 starts in 1997-1998.

Structure of Housing Statistics in Japan

This appendix provides an overview of the structure of housing statistics in Japan. It was prepared by Cyber Builders International specifically for this assignment on behalf of CMHC.

CBI has also prepared a detailed list of information sources (e.g. websites) for housing statistics in Japan. For readers interested in pursuing more detailed information on the Japanese housing market, this list is available from CMHC.



• Structure of housing related statistics

Housing construction
Residential property development
•Survey of completed residential property
Economics Affairs Bureau, MOC(Annual)
•Real estate industry survey
Economics Affairs Bureau, MOC(Annual)
Housing construction
•New dwellings started Economics Affairs Bureau, MOC(Monthly)
Housing economy
•Estimate of construction investment
Economics Affairs Bureau, MOC(Annual)
Family & housing
Housing & family life
•Housing census Statistics Bureau (every 5 years)
•National census Statistics Bureau (every 5 years)
•National life basic survey
Ministry of Health & Welfare (every 3 years)
Housing & affordability
•Family finance survey Statistics Bureau (Monthly)
•Saving trend survey Statistics Bureau (Annual)
•National consumer survey Statistics Bureau (every 5 years)
Housing & land prices
•Housing inventory trend
Real Estate Transaction and Modernization Centre(Monthly)
•Residential property price survey GHLC(every 6 month)
Commuting
•Social life basic survey Statistics Bureau (every 5 years)
•Housing statistical survey Statistics Bureau (every 5 years)
•Nation's time life survey
Japan Broadcasting Corporation(NHK)(every 5 years)
Life style
•Trend of housing demand Housing Bureau, MOC(every 5 years)

• Structure of construction & real estate development related statistics